

FIG. 1

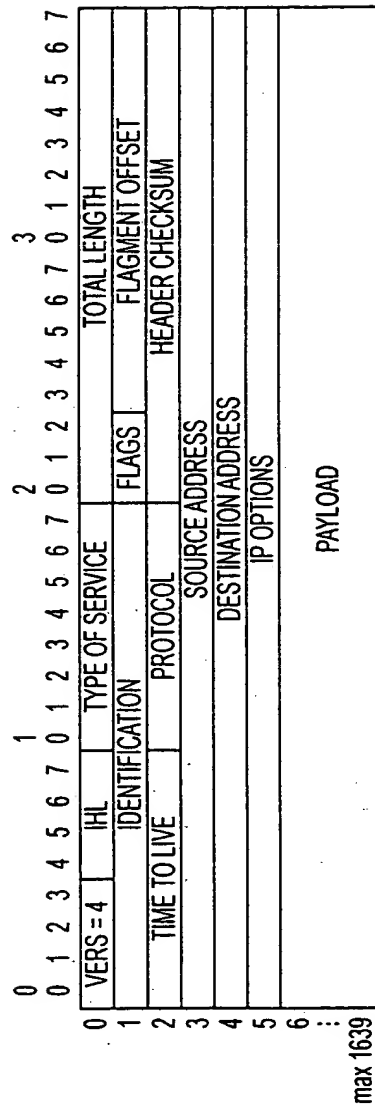


FIG. 2

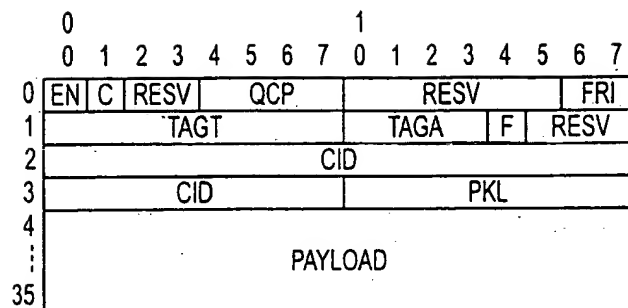


FIG. 3

FIG. 3

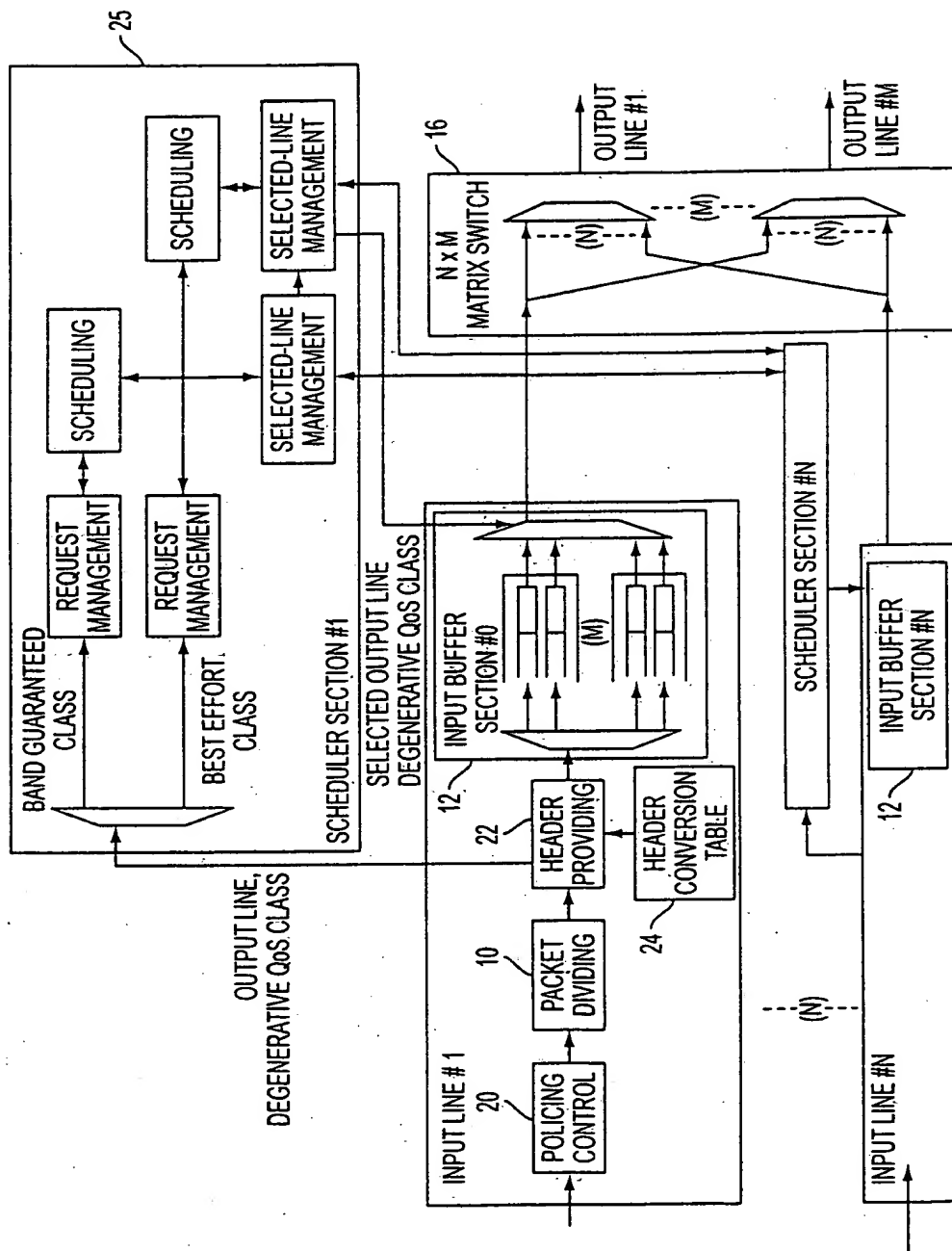


FIG. 4

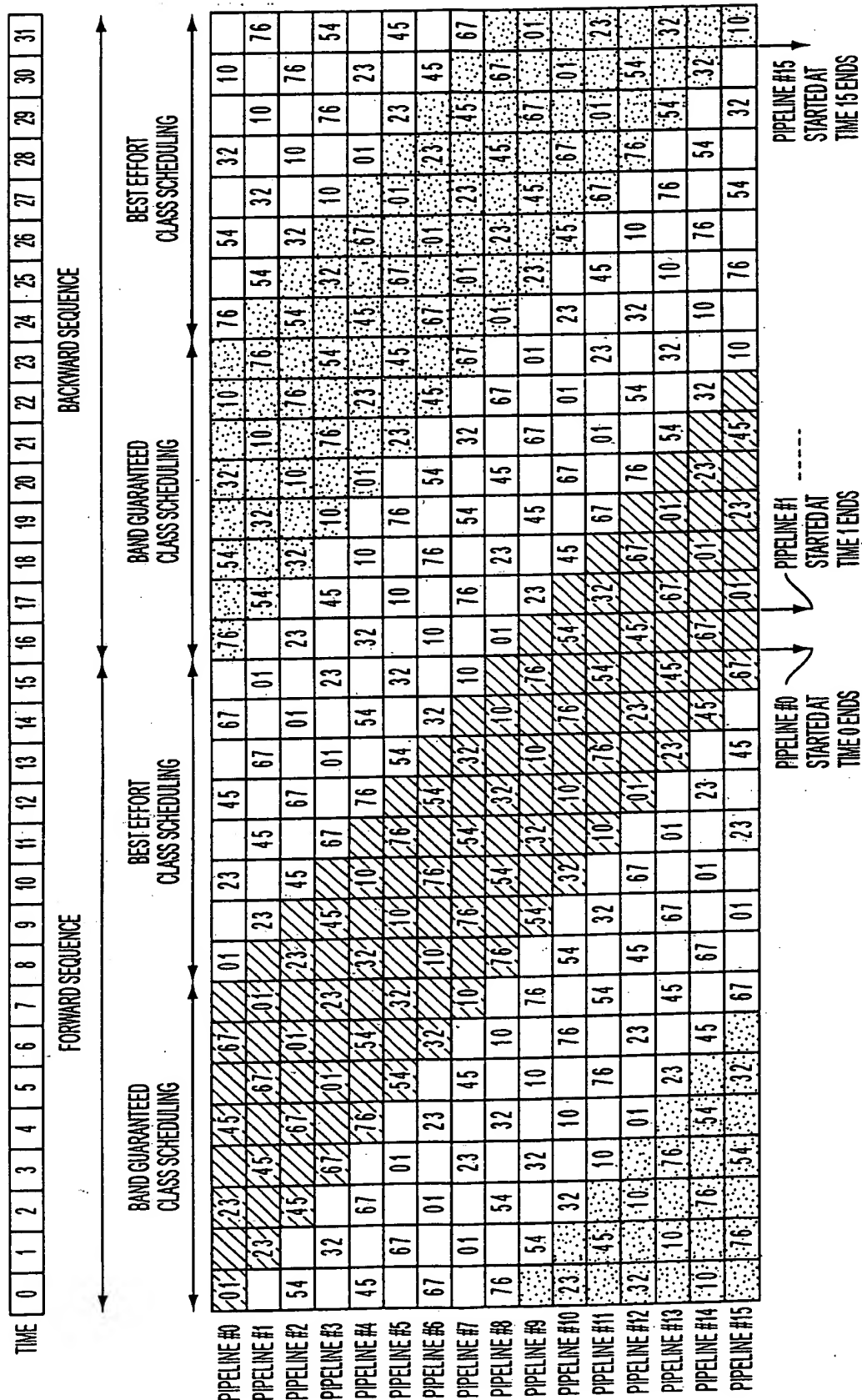


FIG. 5

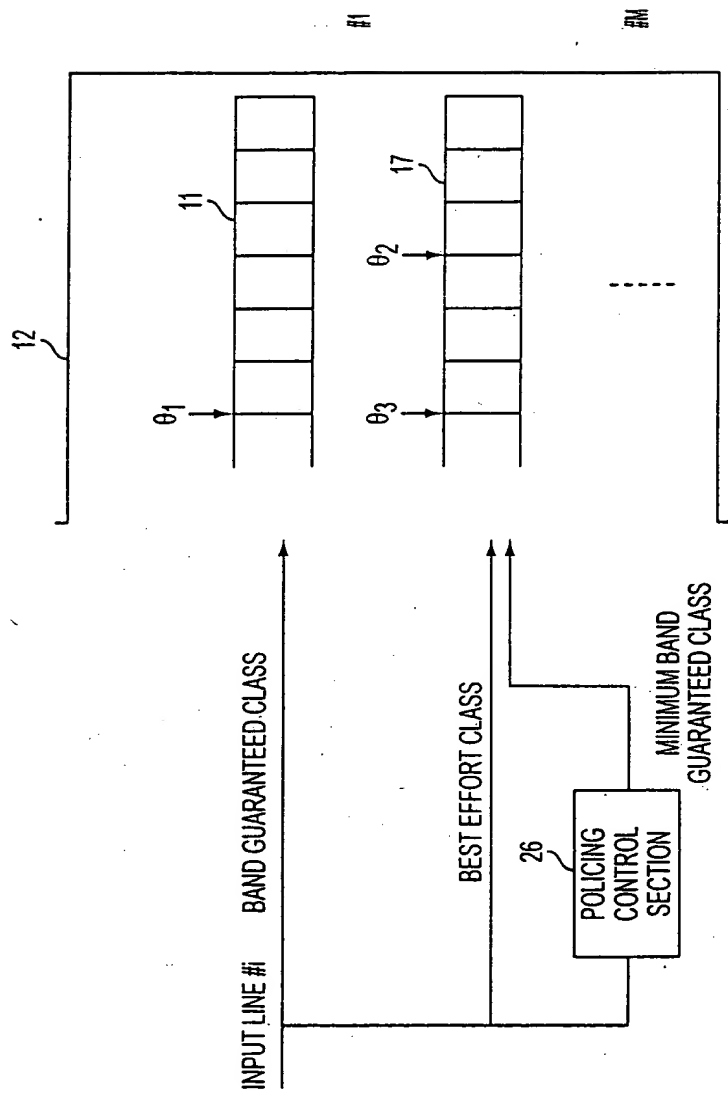


FIG. 6

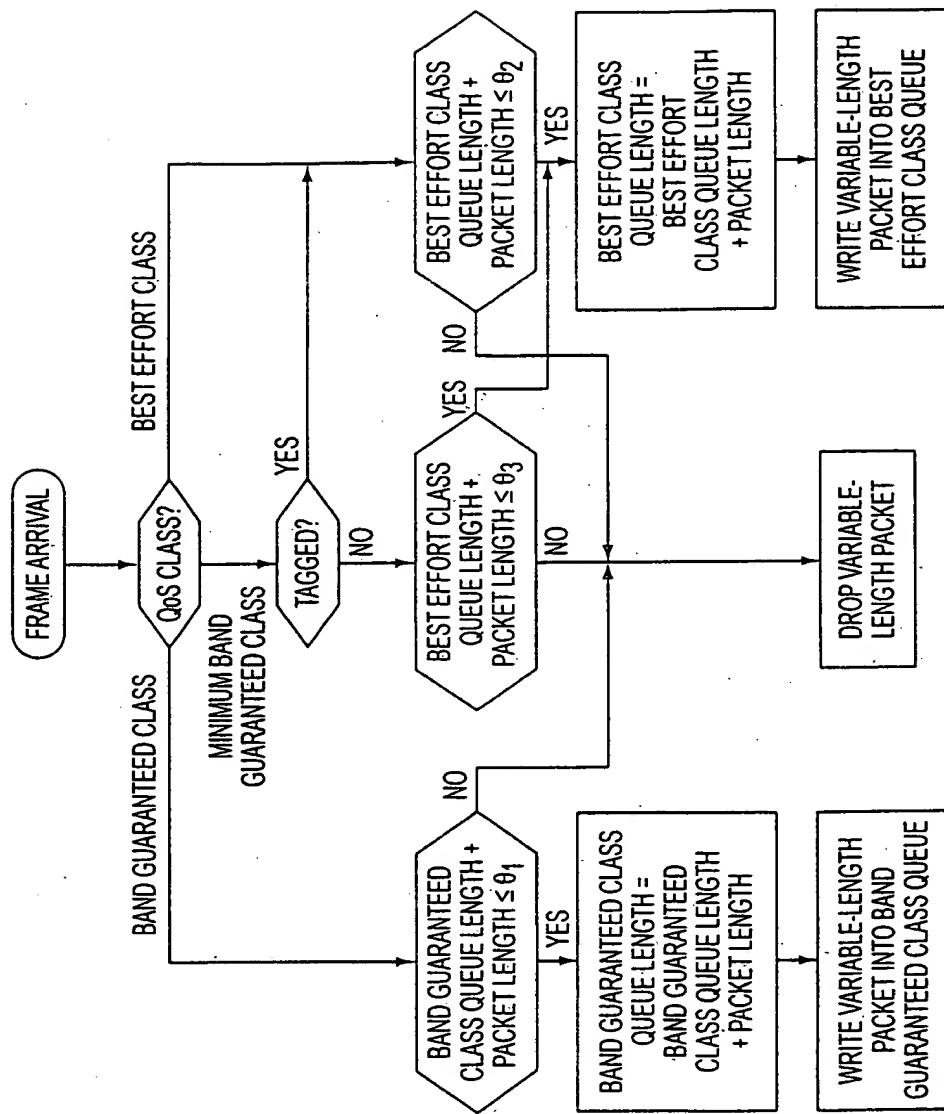


FIG. 7

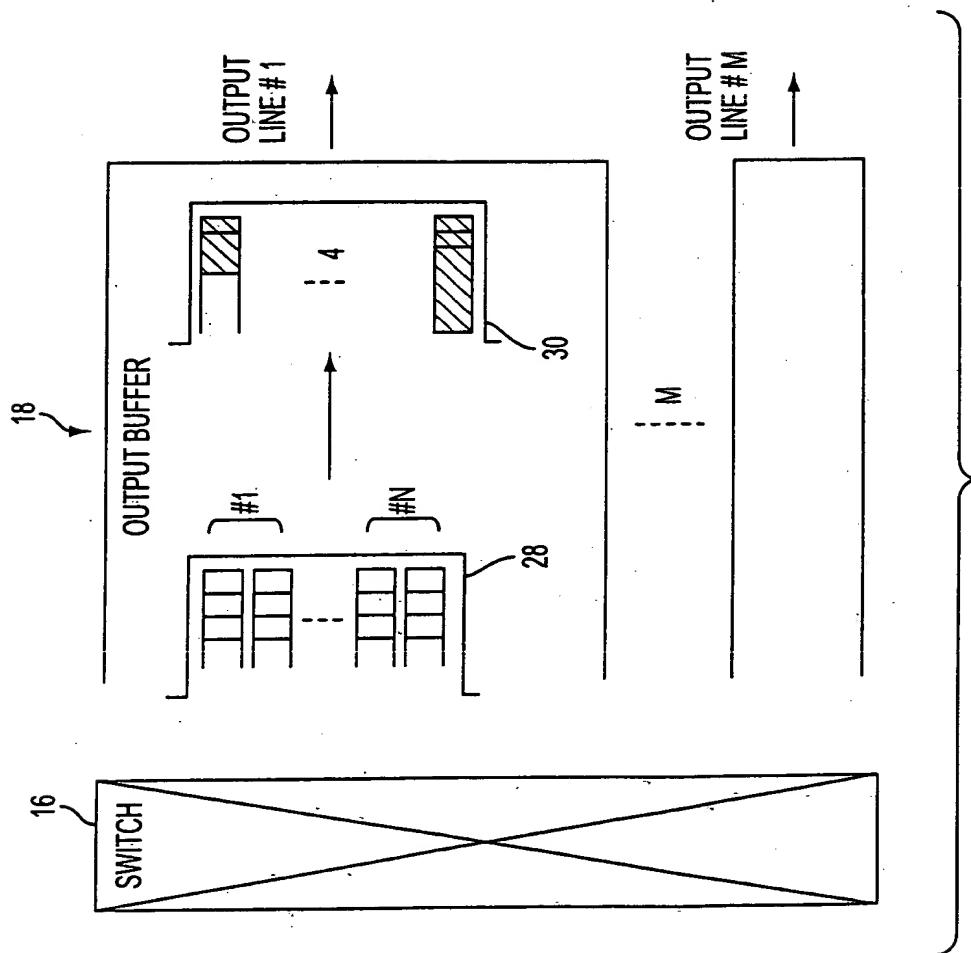


FIG. 8

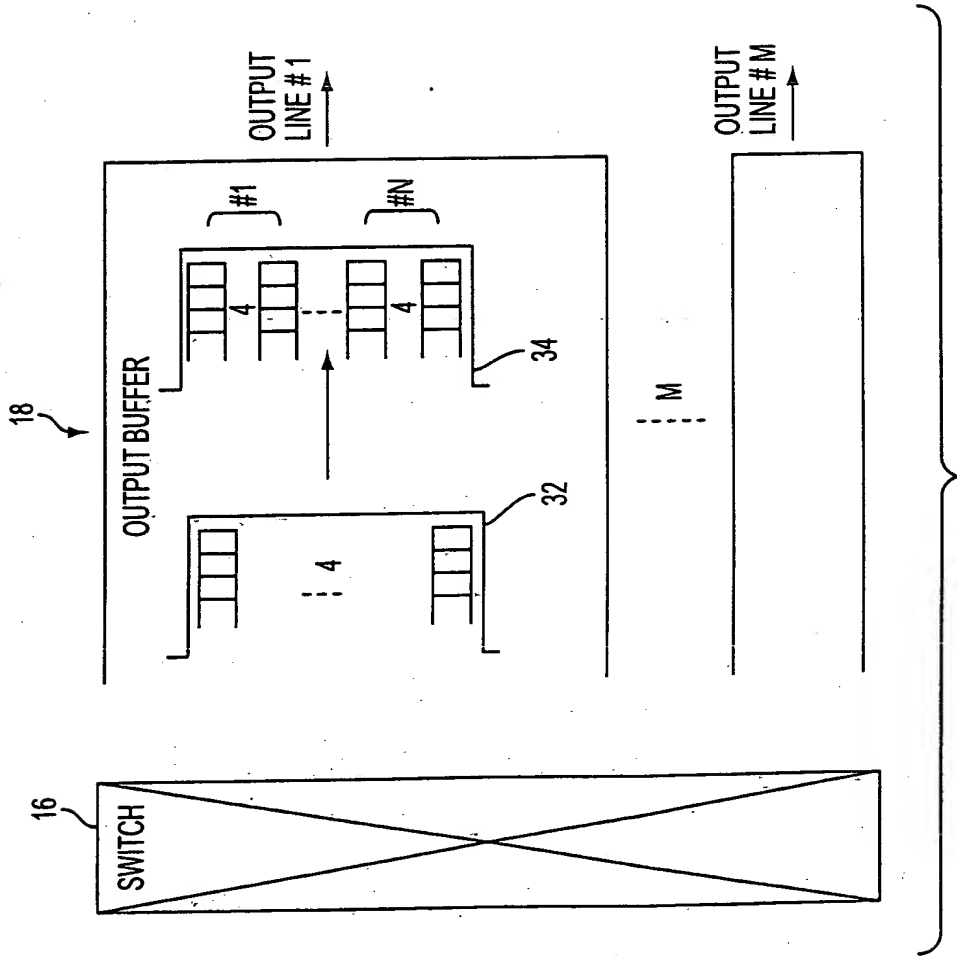


FIG. 9

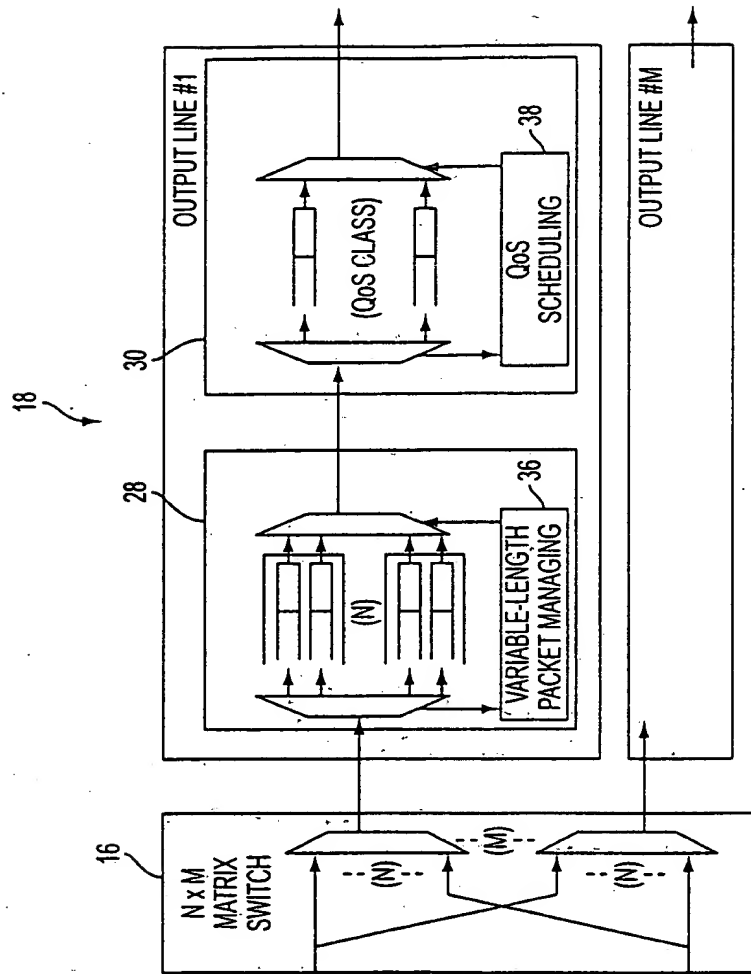


FIG. 10

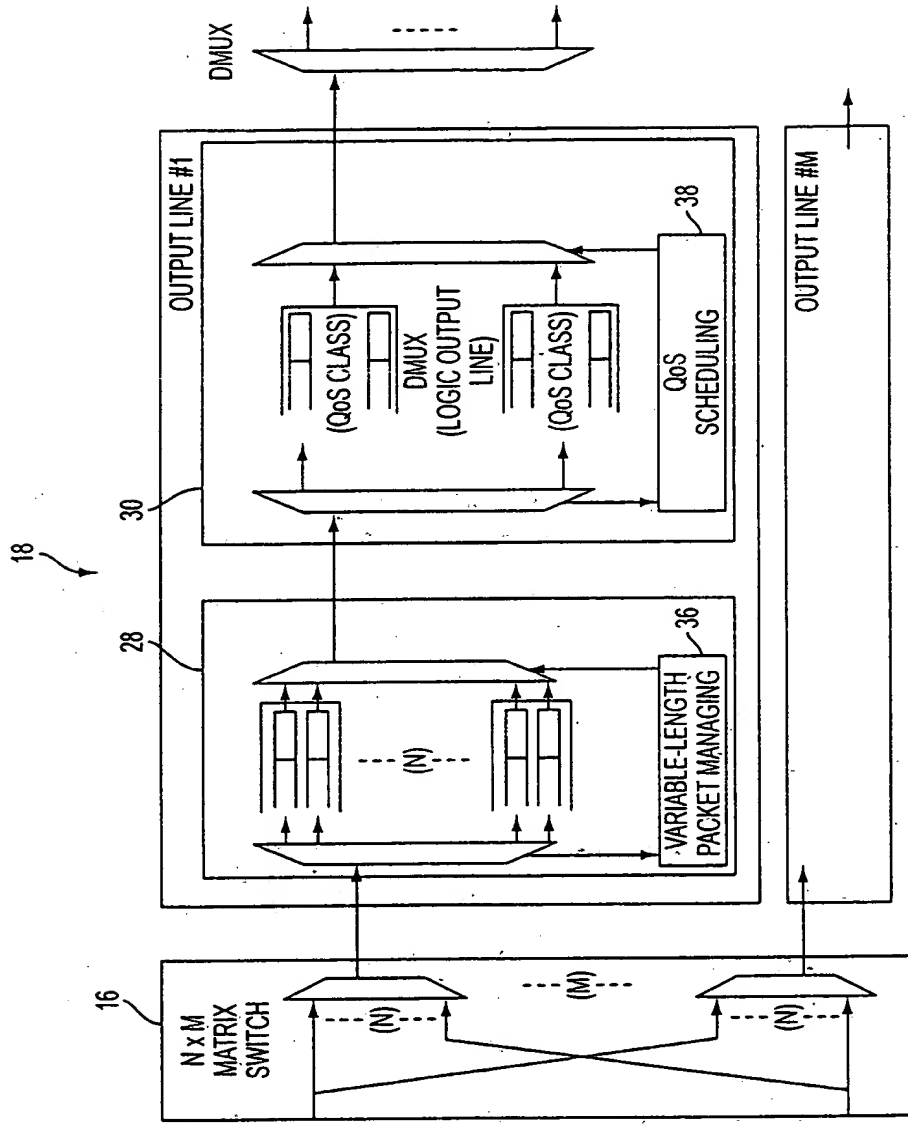


FIG. 11

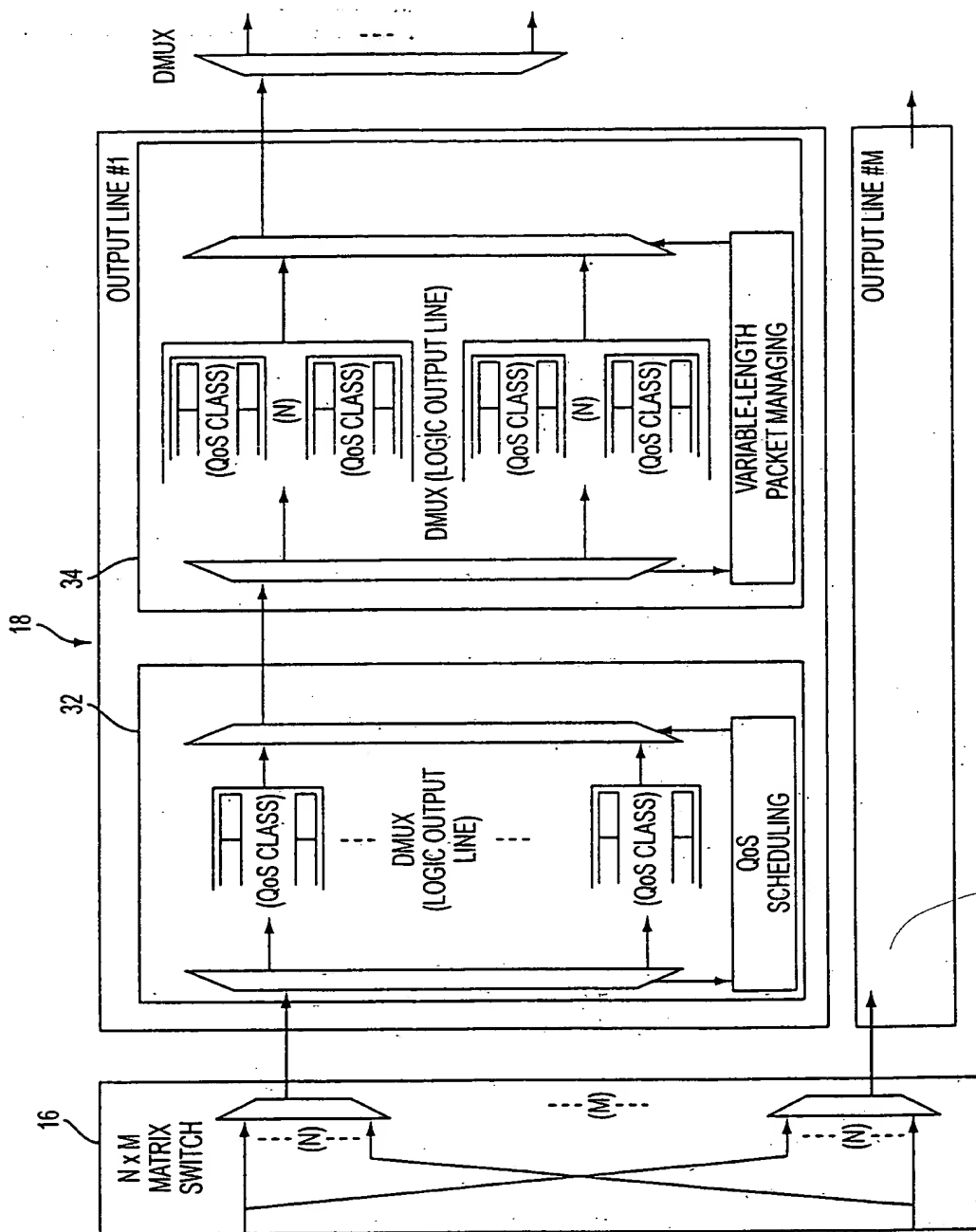


FIG. 12

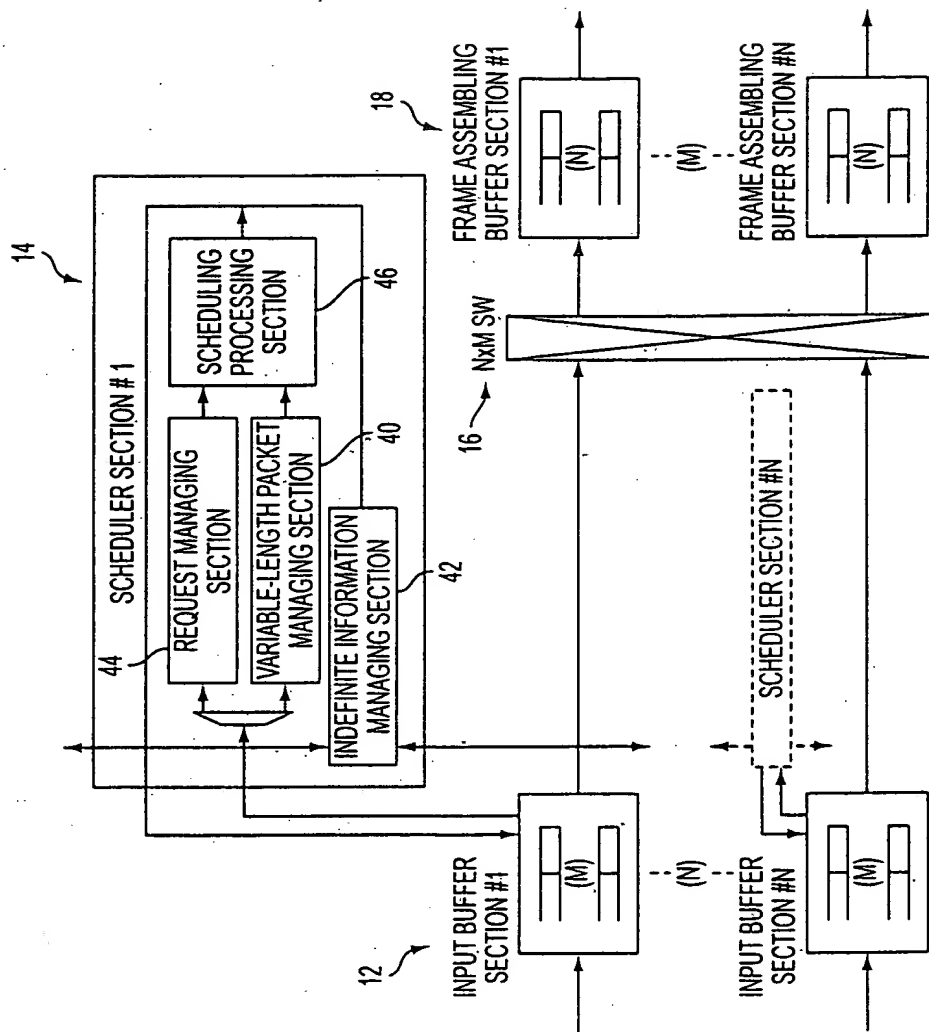


FIG. 13

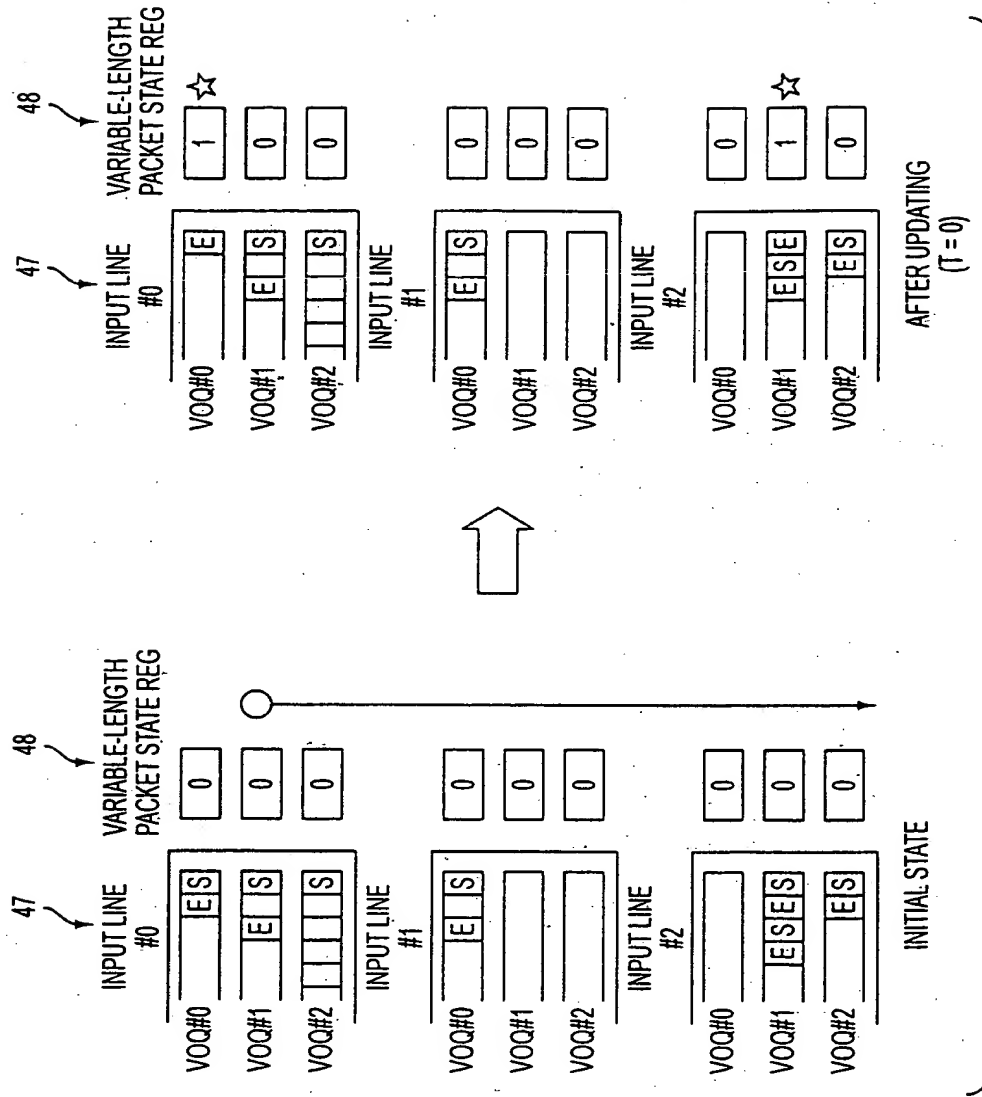


FIG. 14

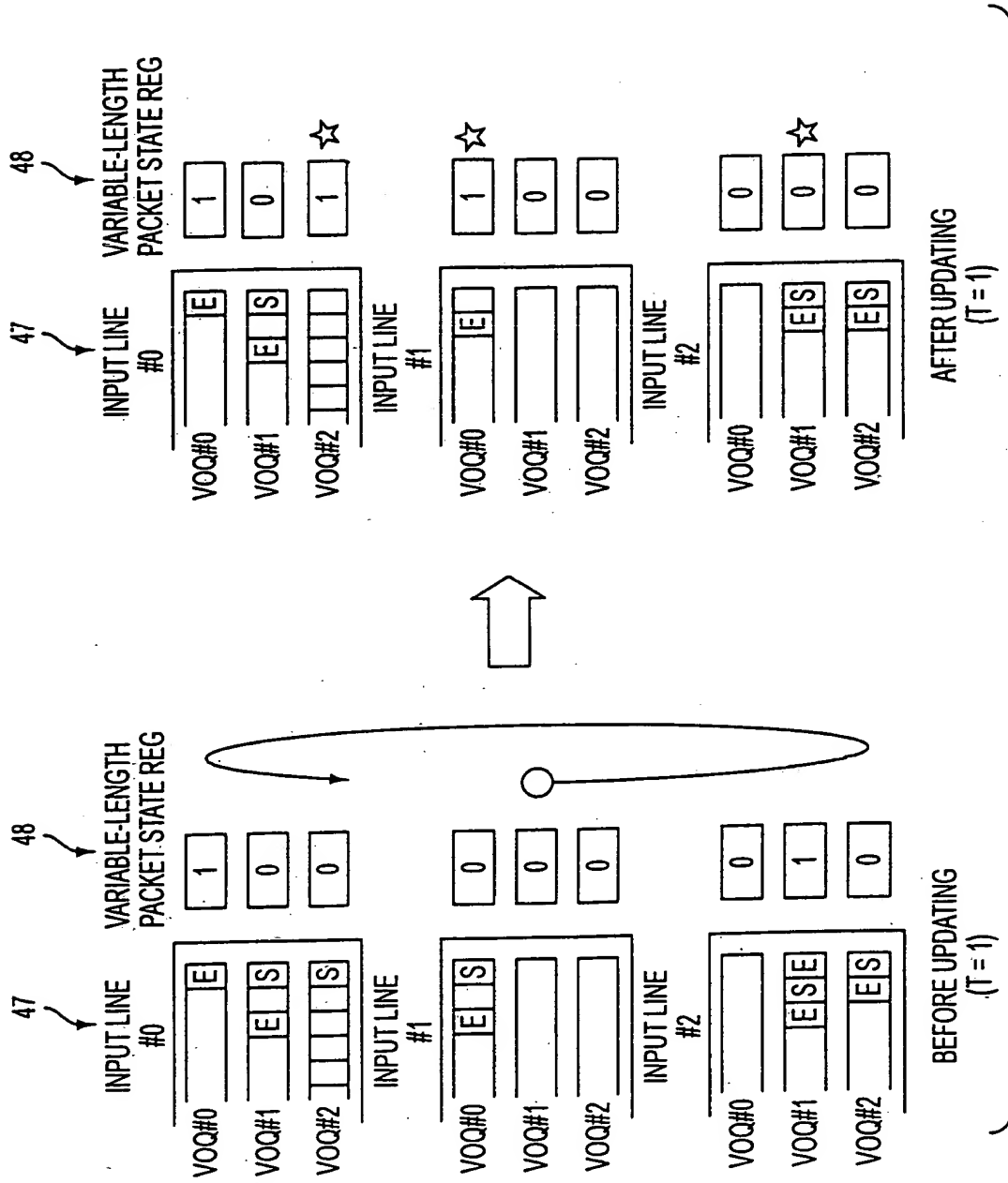


FIG. 15

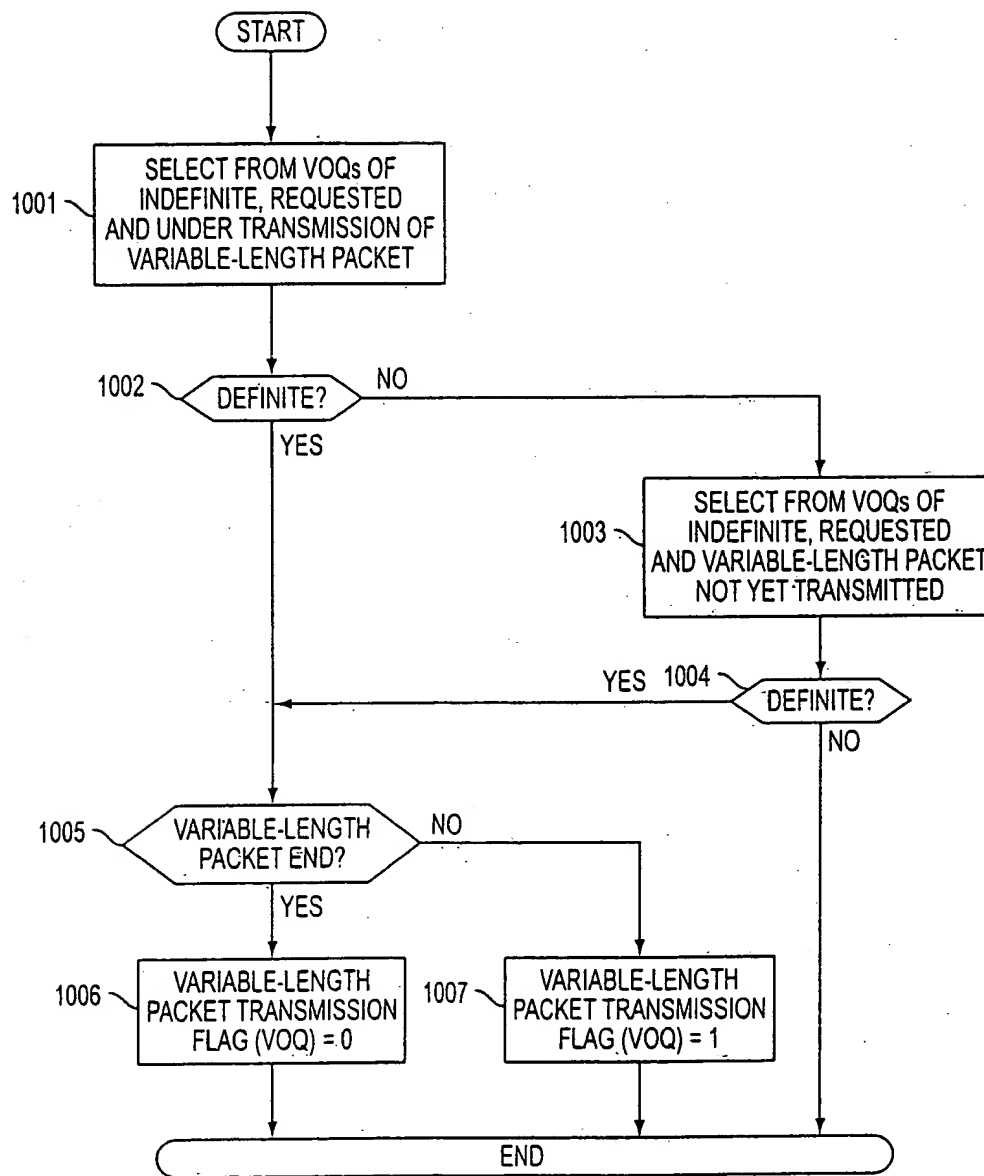


FIG. 16

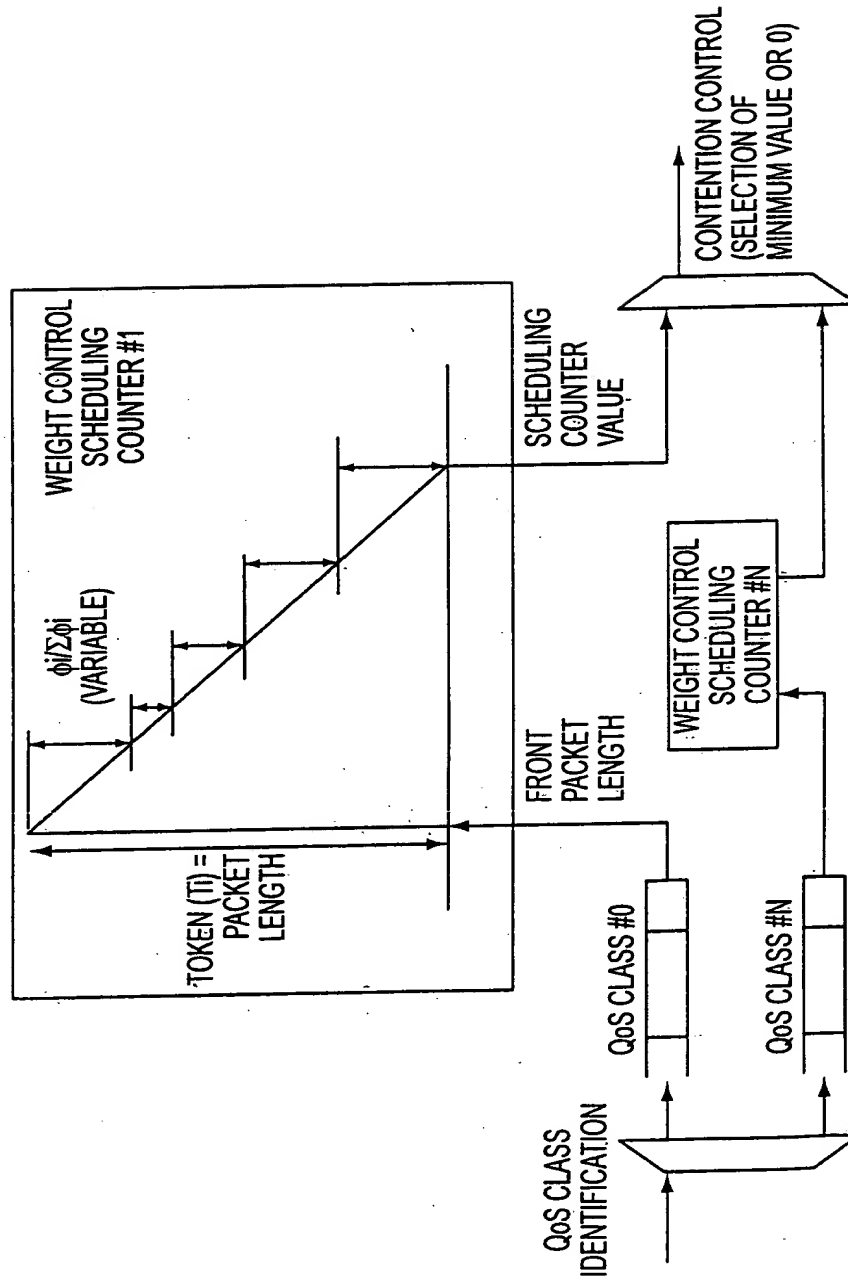


FIG. 17

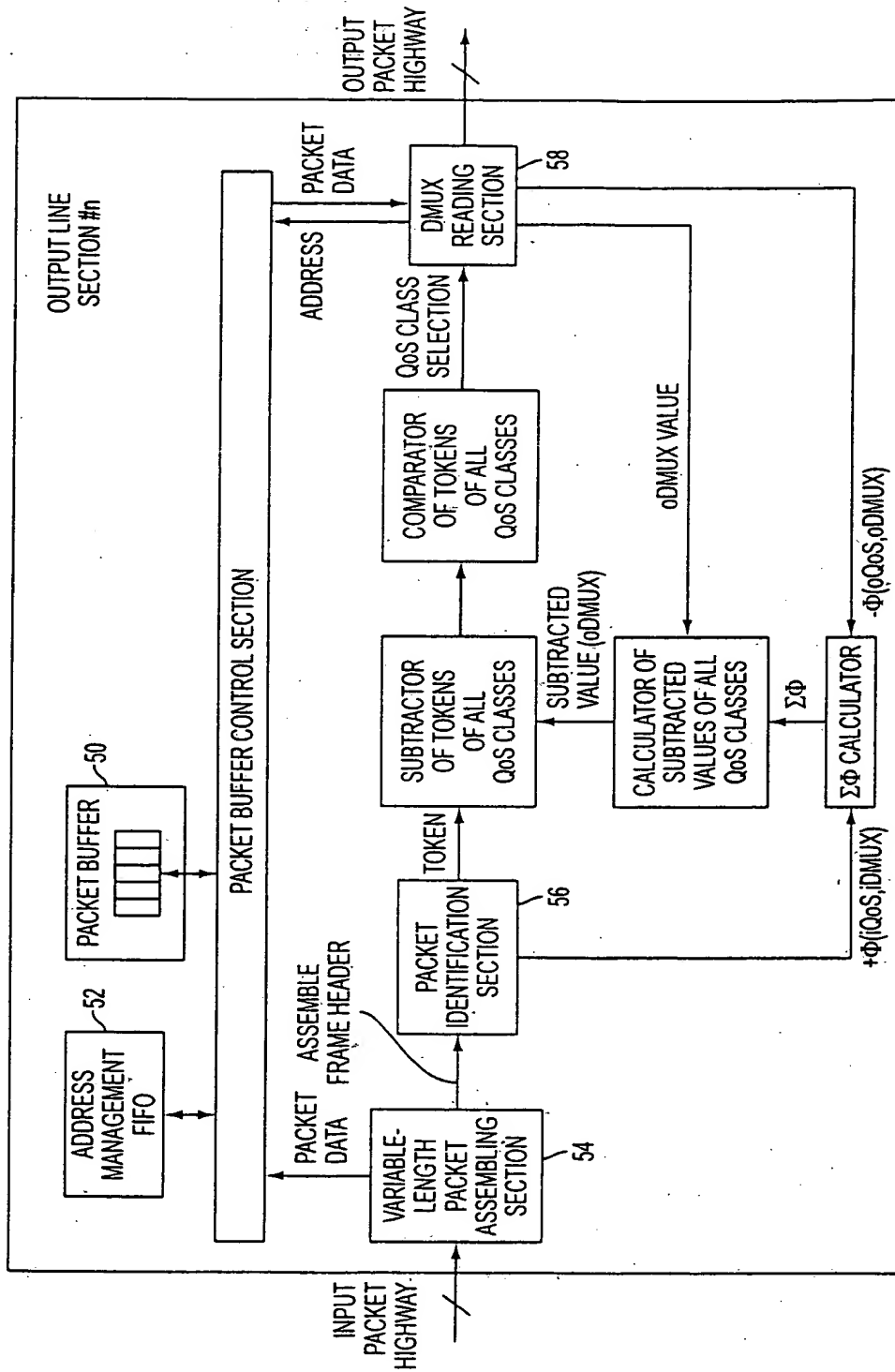


FIG. 18

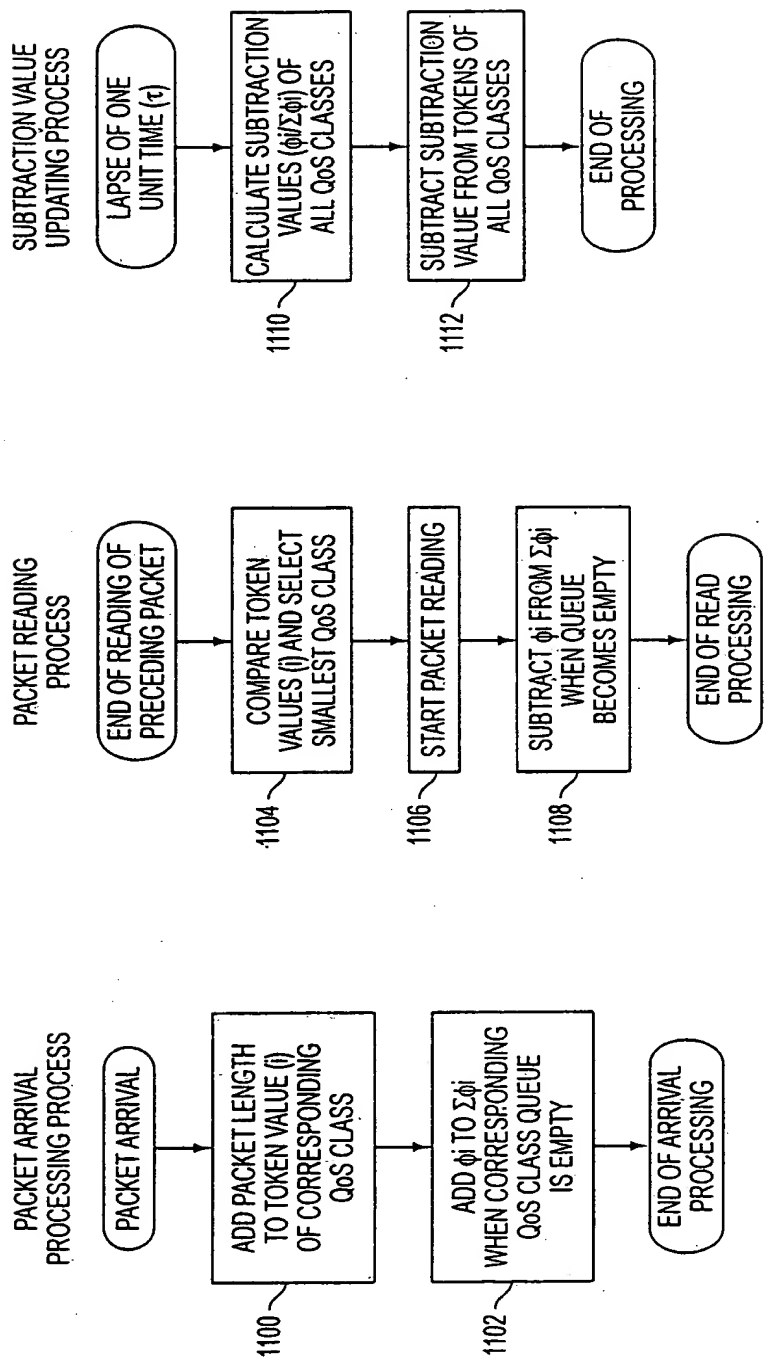


FIG. 19

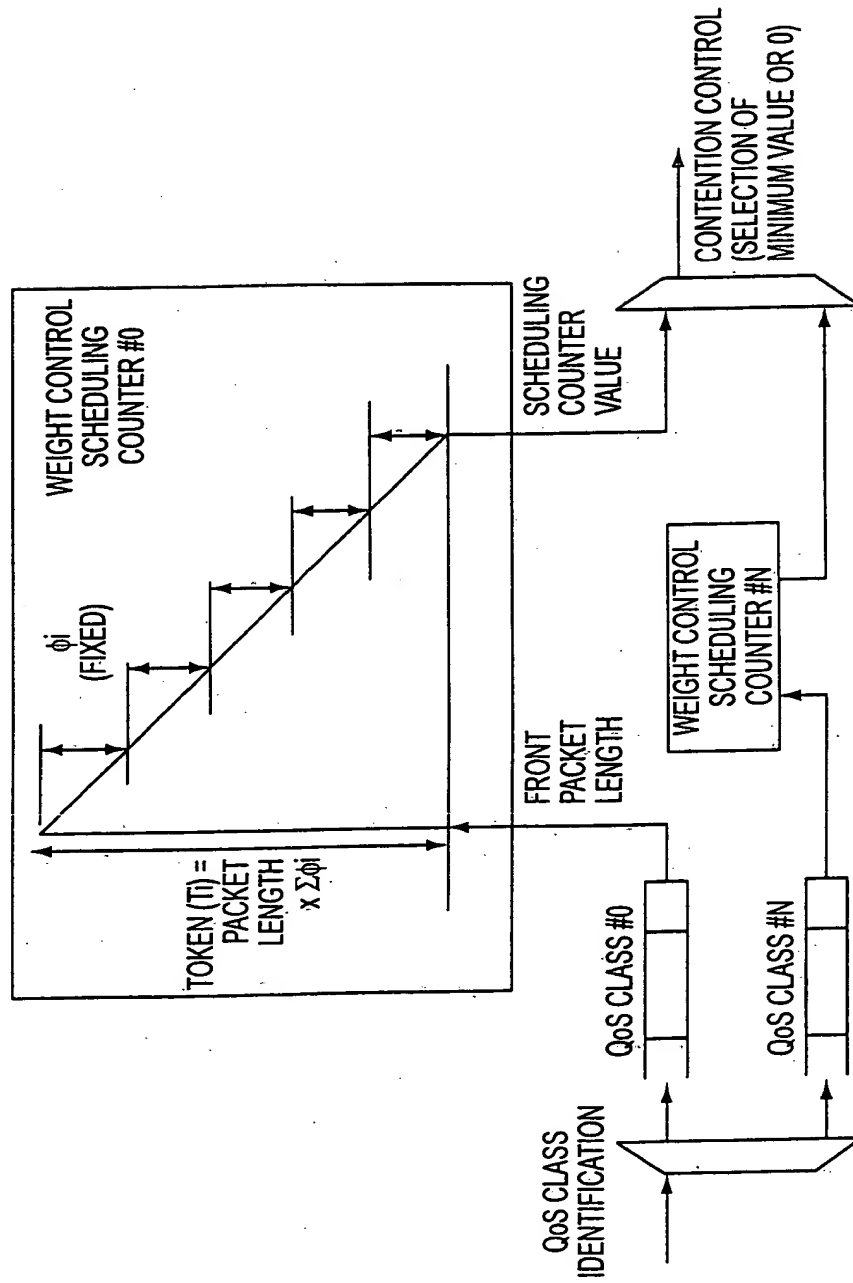


FIG. 20

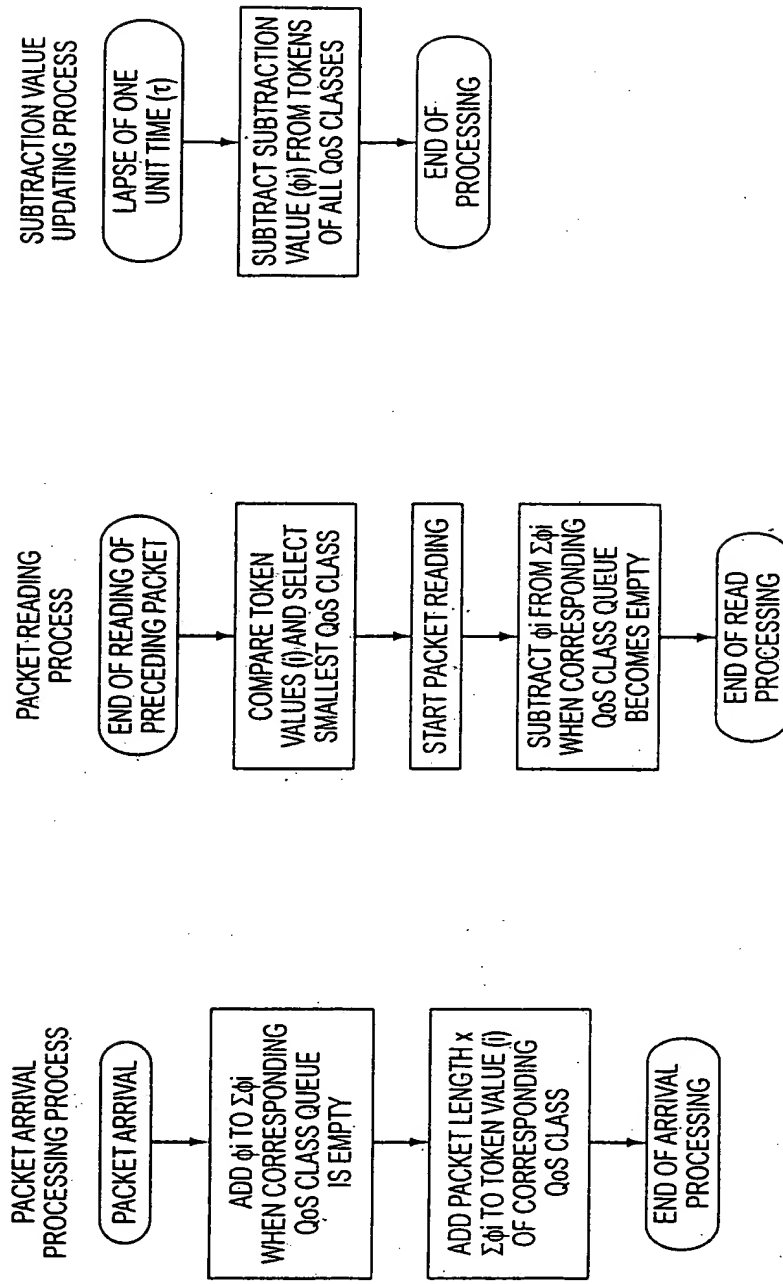


FIG. 21

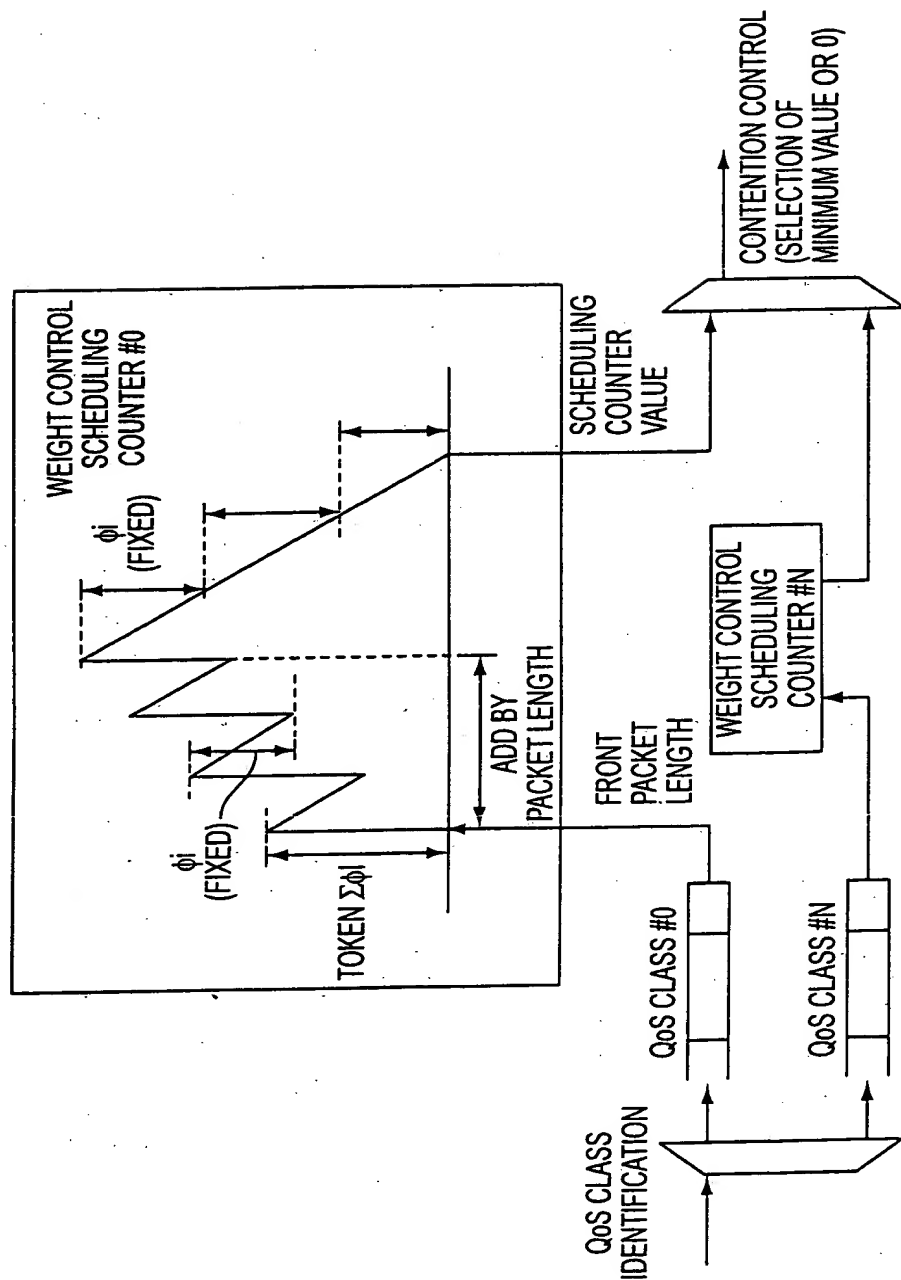


FIG. 22

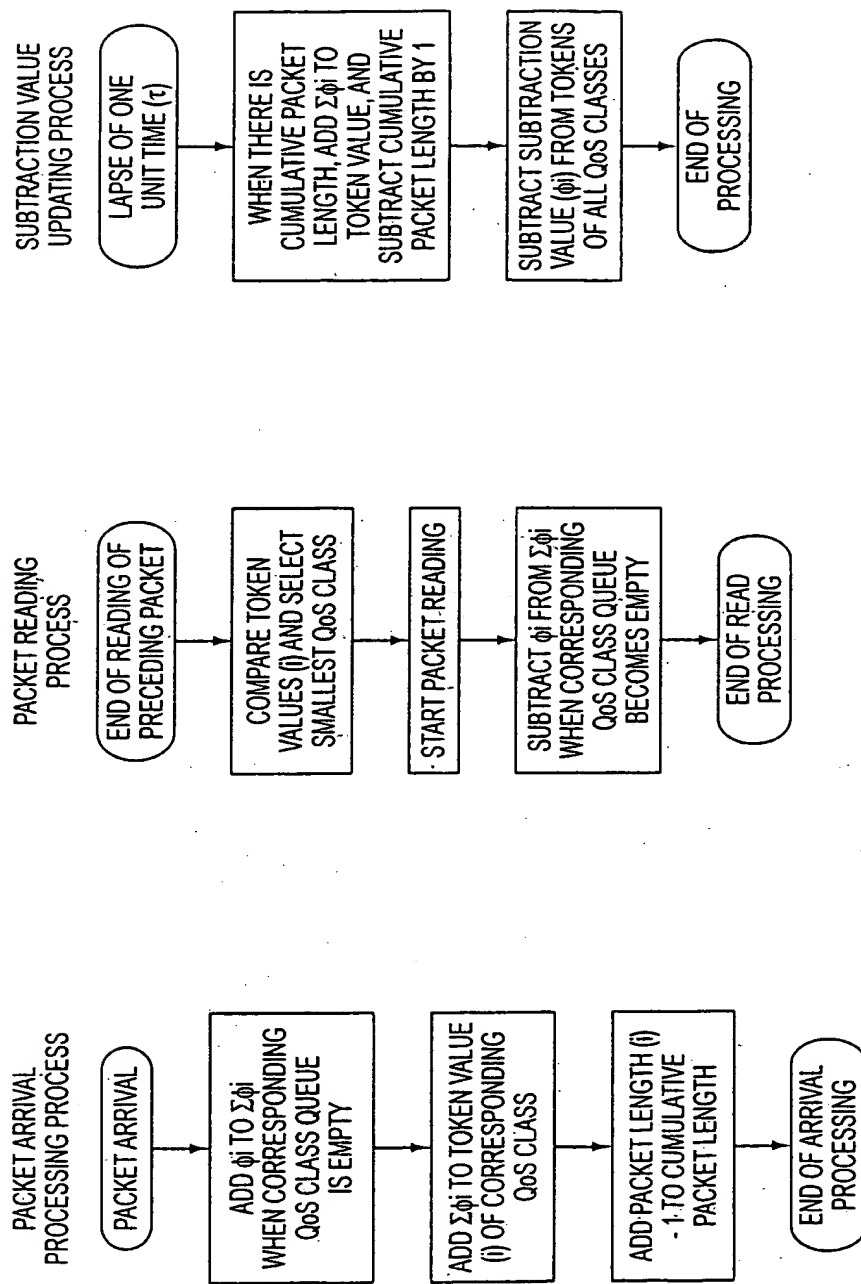


FIG. 23

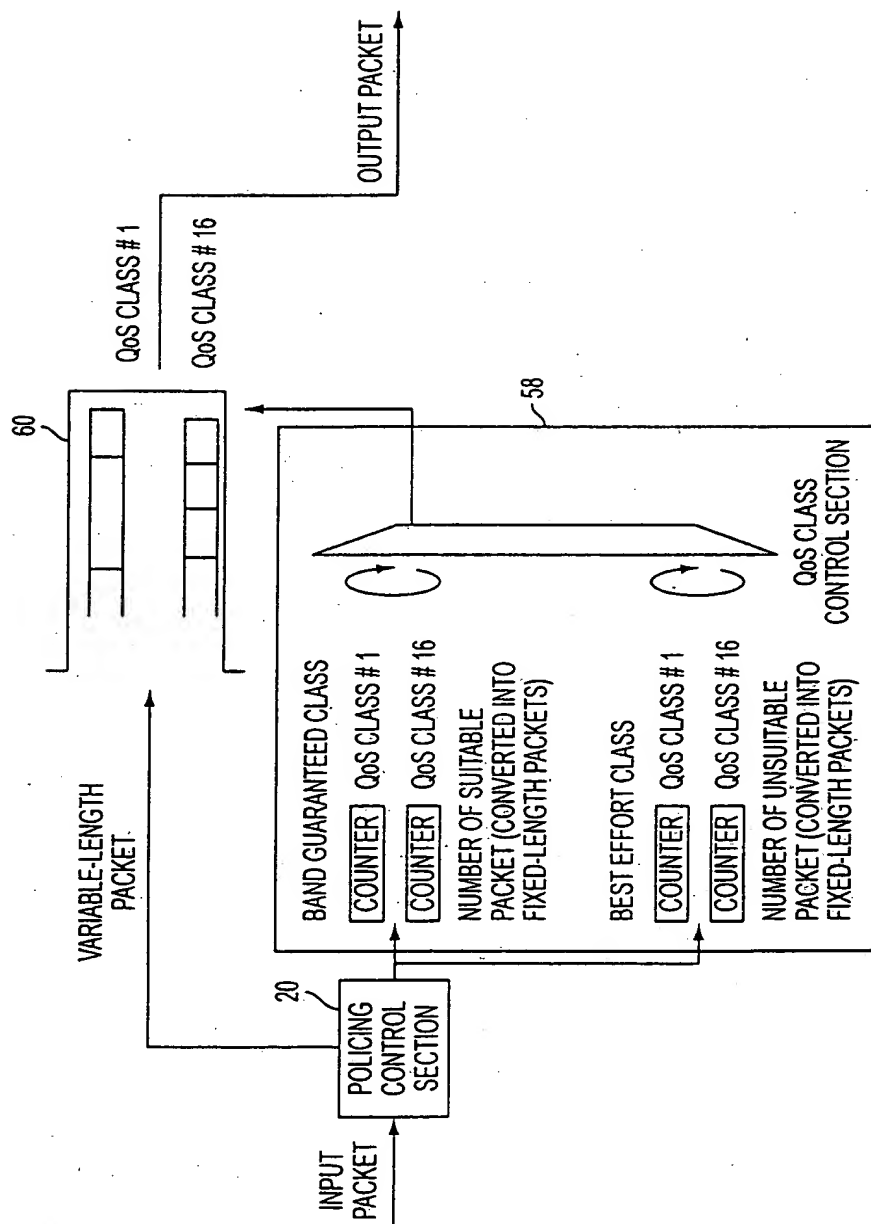


FIG. 24



FIG. 25

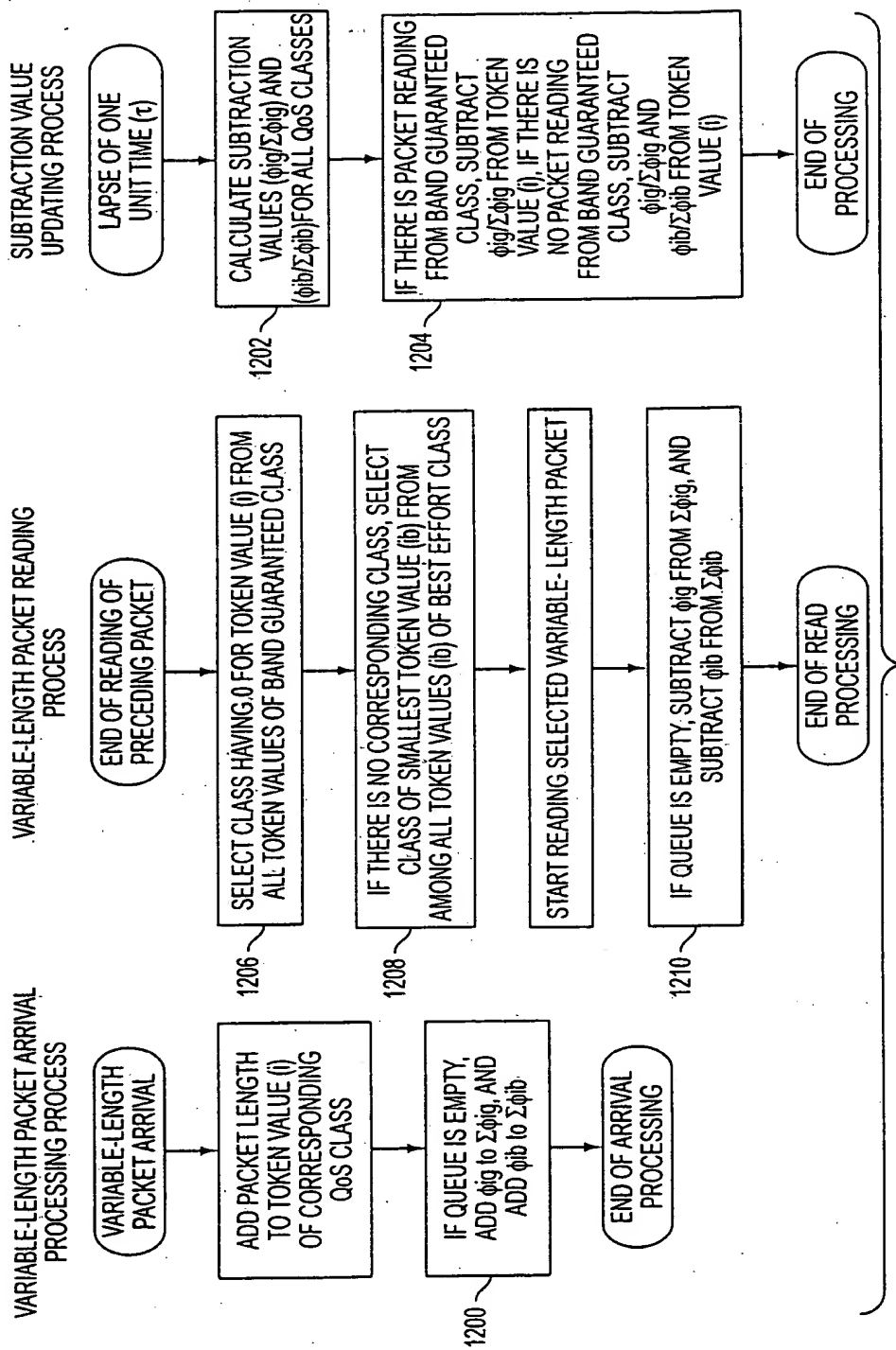


FIG. 27

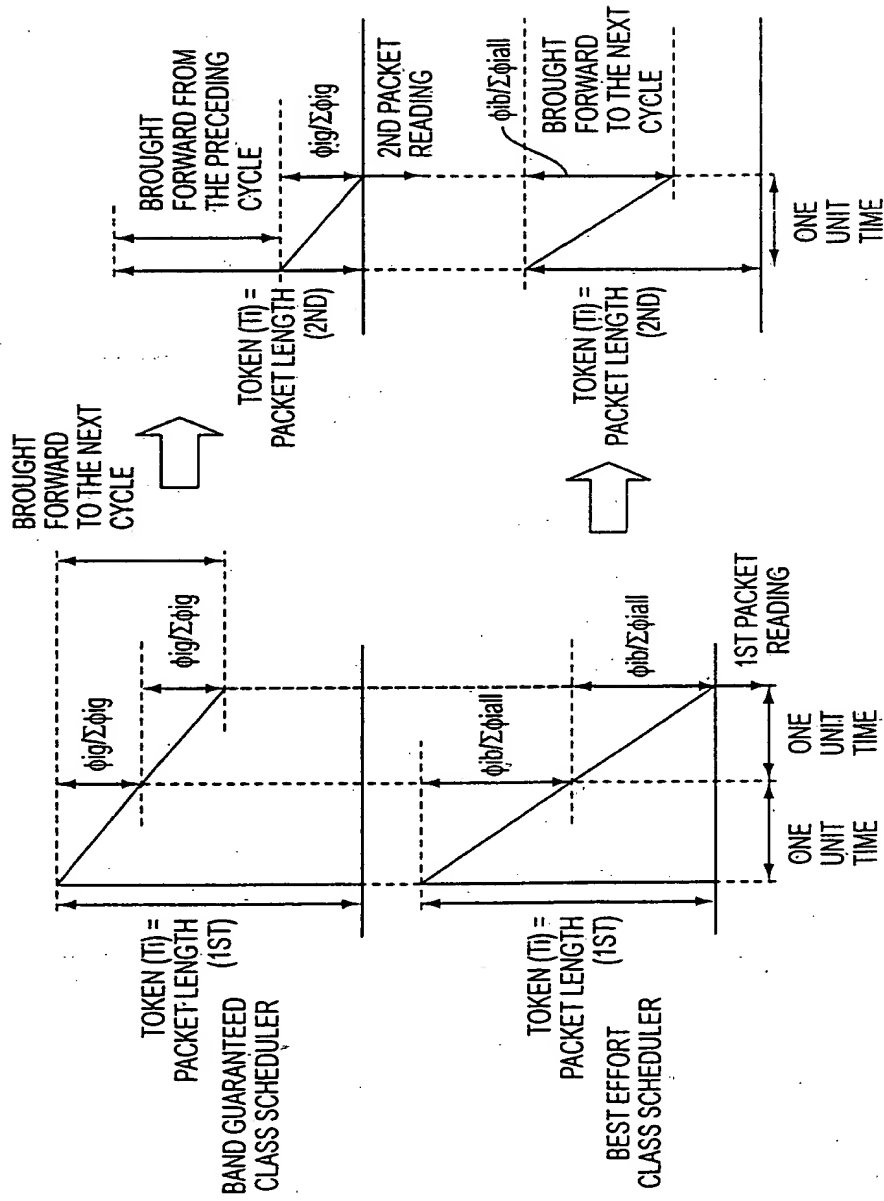


FIG. 28

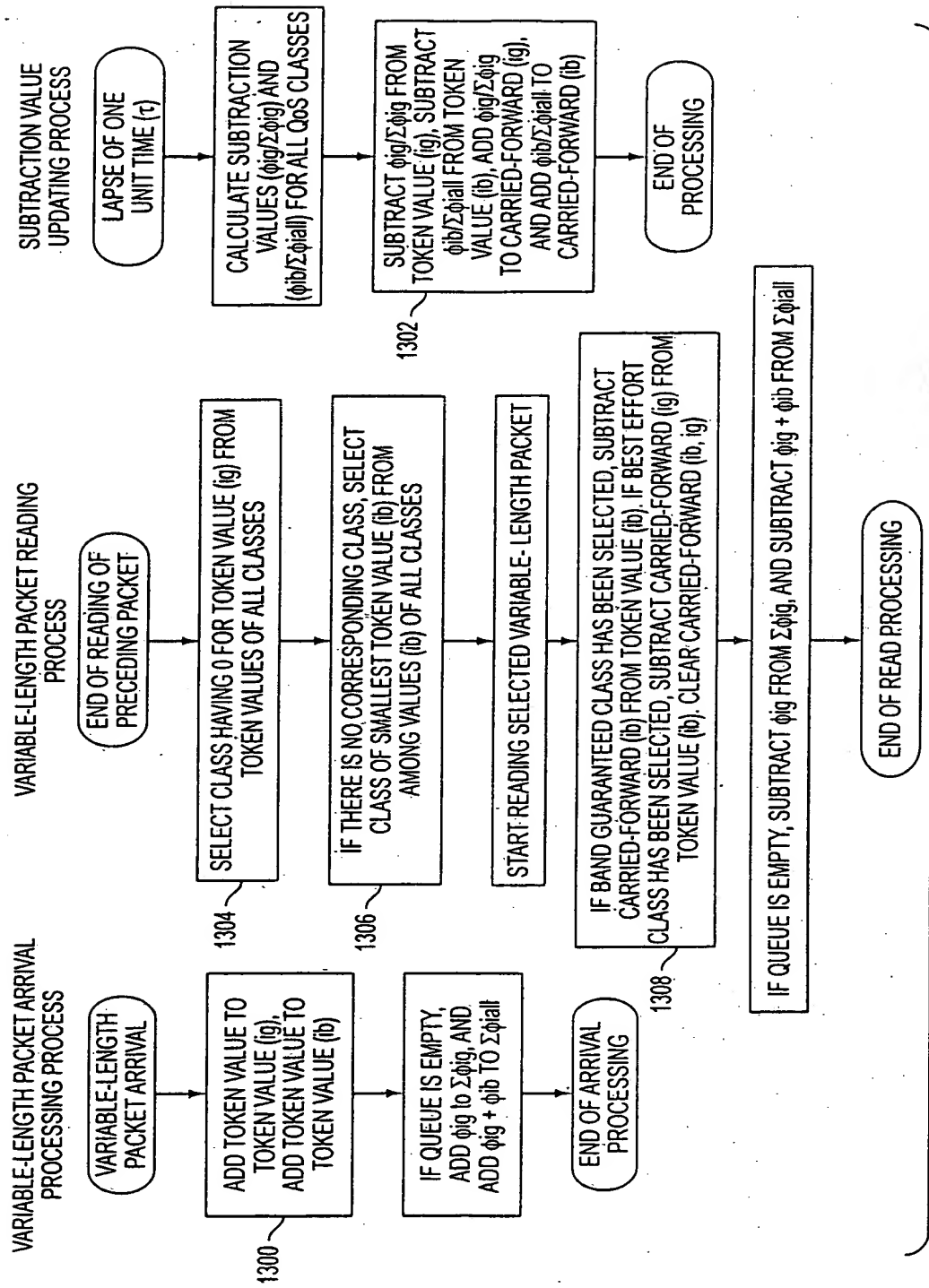


FIG. 29

FIG. 30

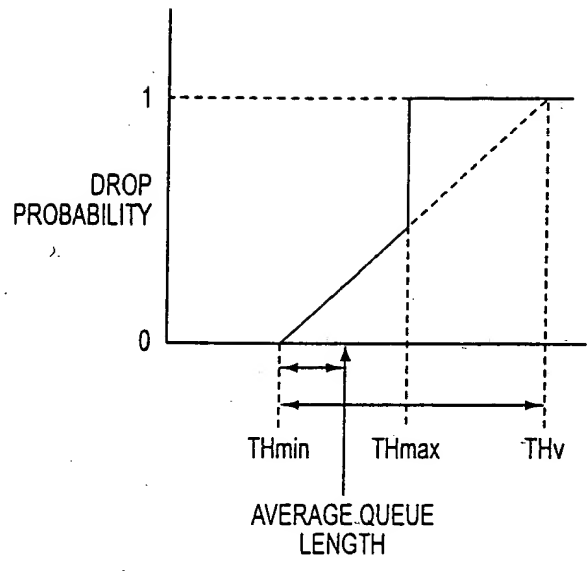


FIG. 30

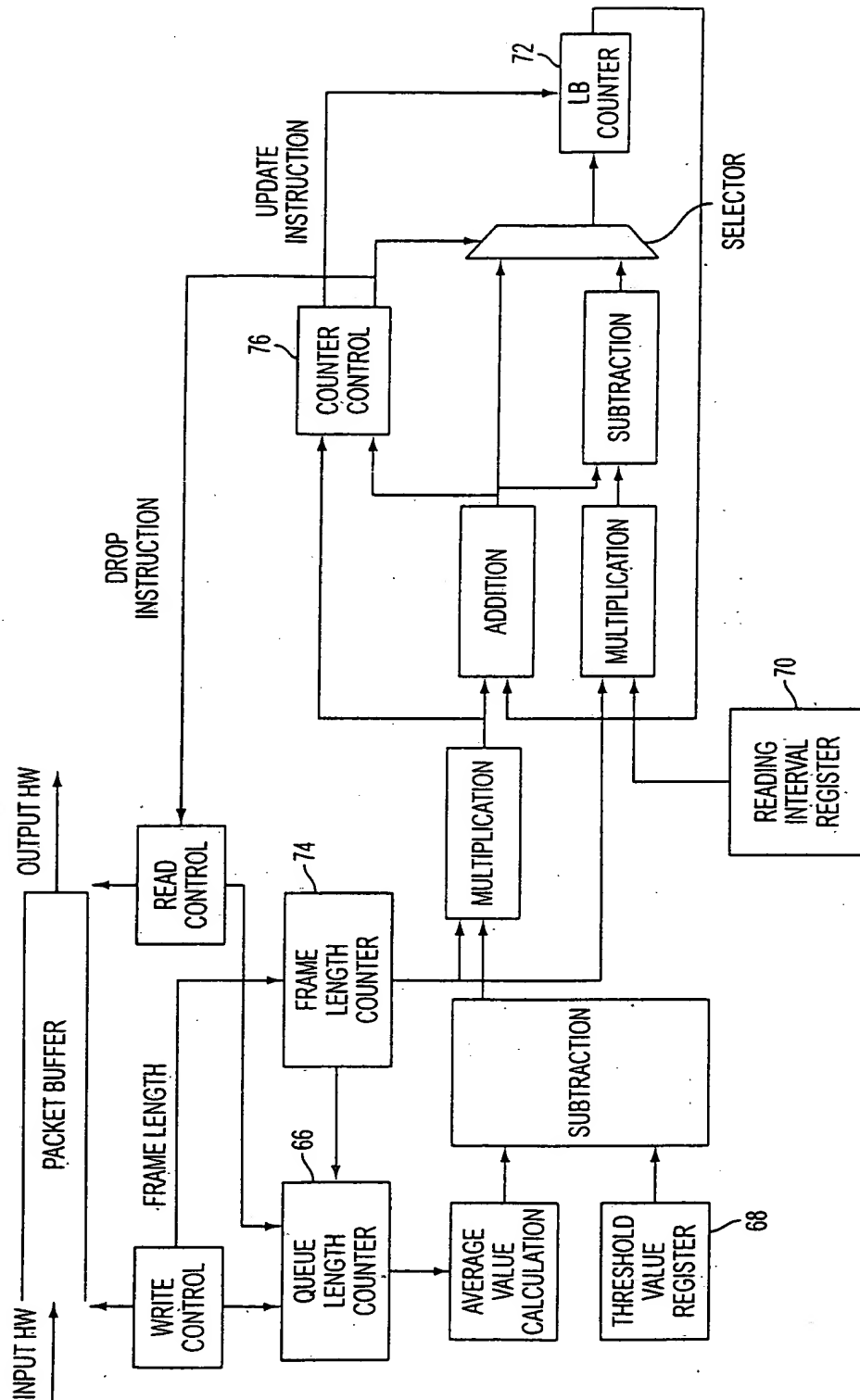
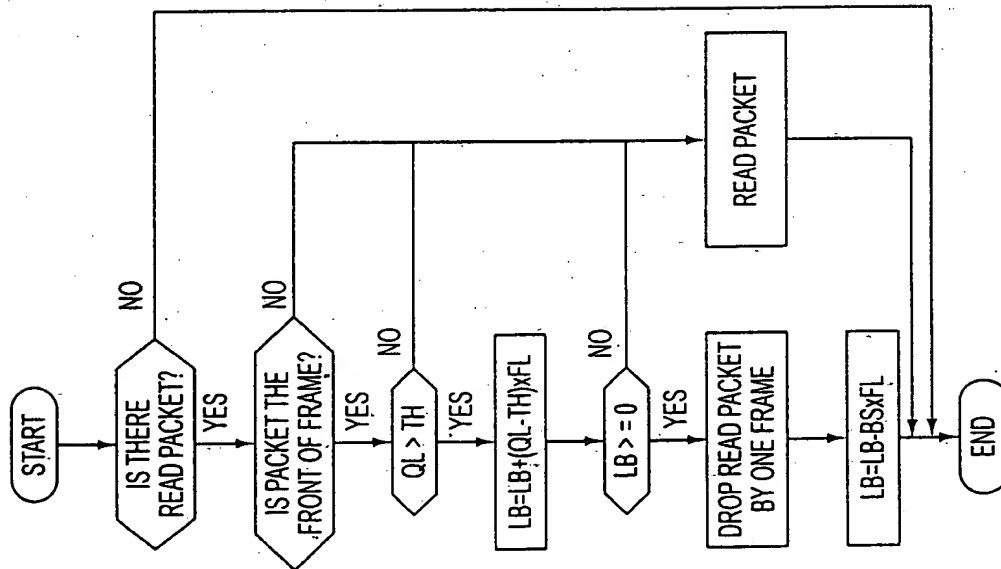


FIG. 31



LB: LB COUNTER
 QL: (AVERAGE) QUEUE LENGTH
 TH: DROP THRESHOLD VALUE
 FL: FRAME LENGTH
 BS: READING INTERVAL

FIG. 32

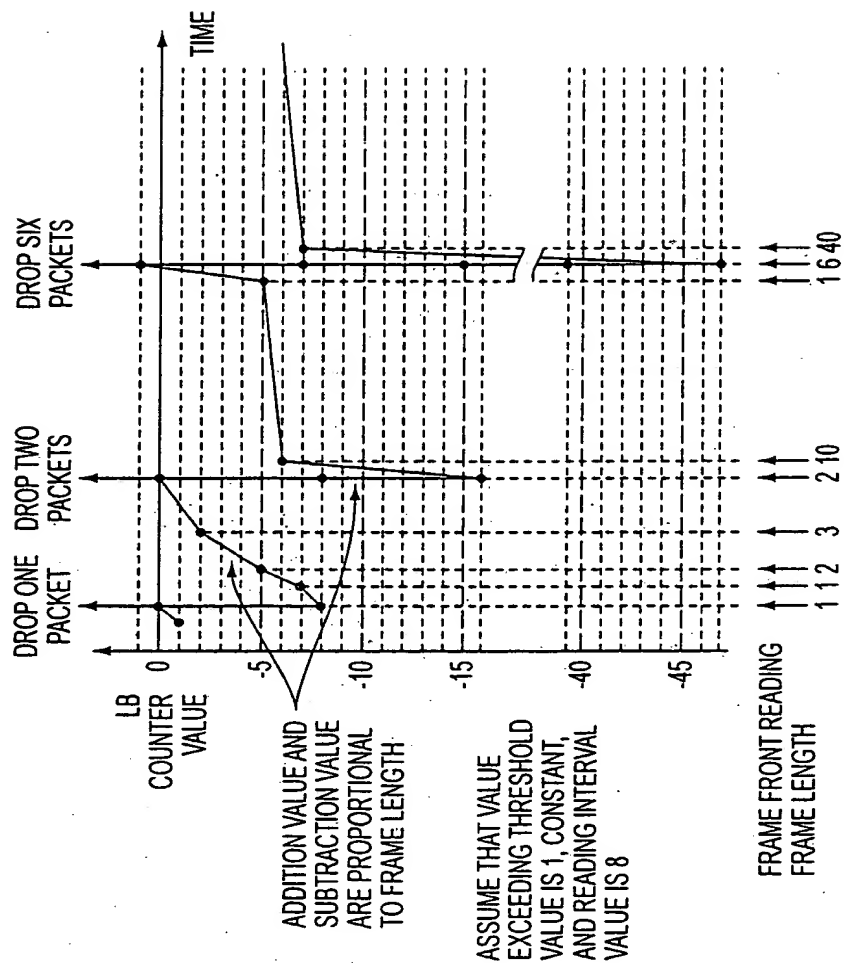


FIG. 33

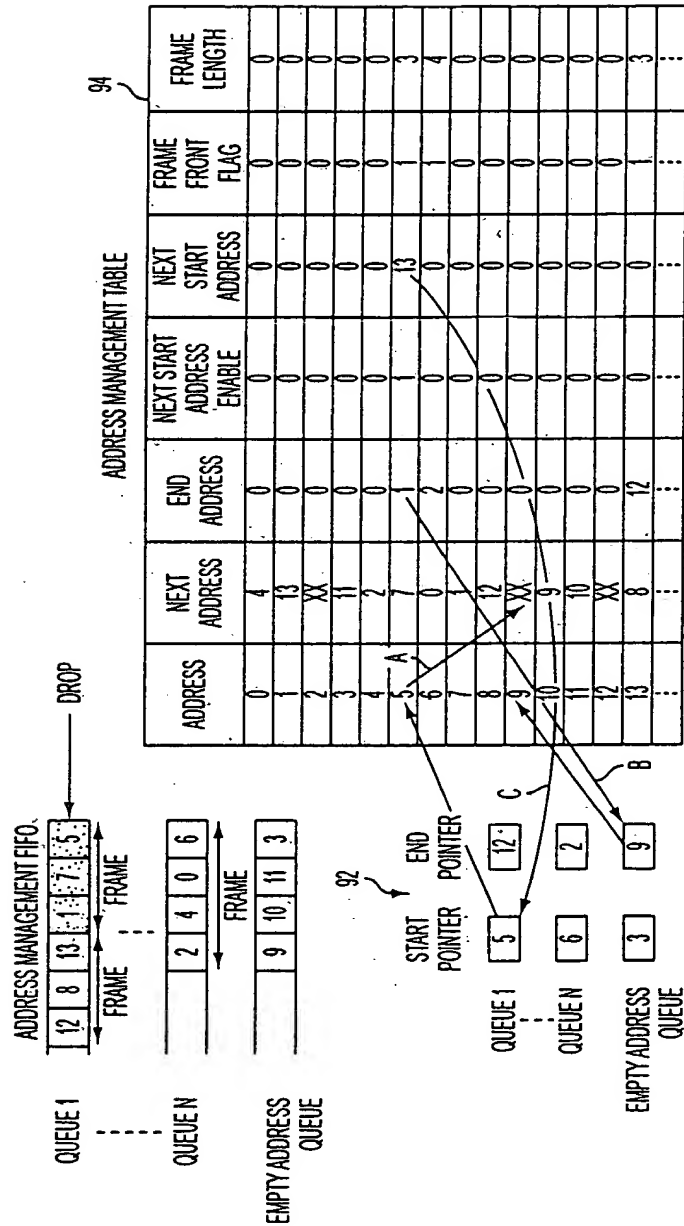
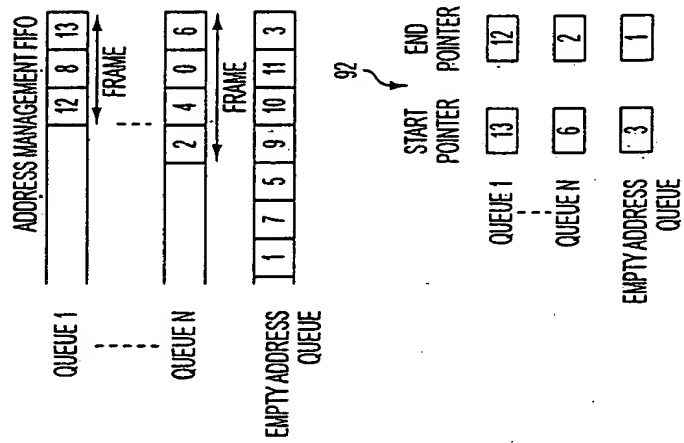


FIG. 34



ADDRESS MANAGEMENT TABLE

ADDRESS	NEXT ADDRESS	END ADDRESS	NEXT START ADDRESS ENABLE	NEXT START ADDRESS	FRAME FRONT FLAG	FRAME LENGTH
0	4	0	0	0	0	0
1	13	0	0	0	0	0
2	XX	0	0	0	0	0
3	11	0	0	0	0	0
4	2	0	0	0	0	0
5	7	0	0	0	0	0
6	0	2	0	0	1	4
7	1	0	0	0	0	0
8	12	0	0	0	0	0
9	5	0	0	0	0	0
10	9	0	0	0	0	0
11	10	0	0	0	0	0
12	XX	0	0	0	0	0
13	8	12	0	0	1	3
...

FIG. 35

THE **NEW** **YORK** **PUBLIC** **LIBRARY**

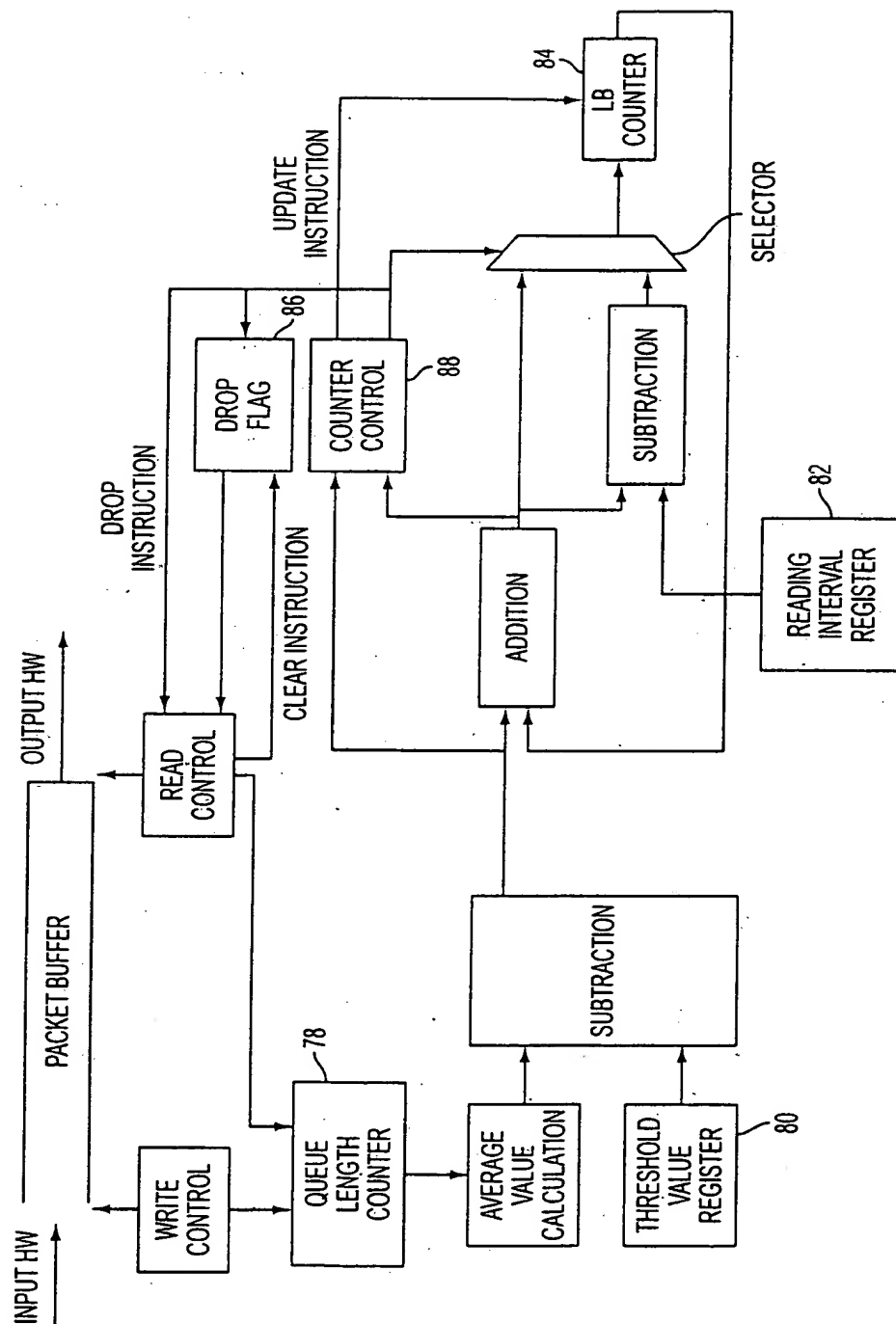


FIG. 36

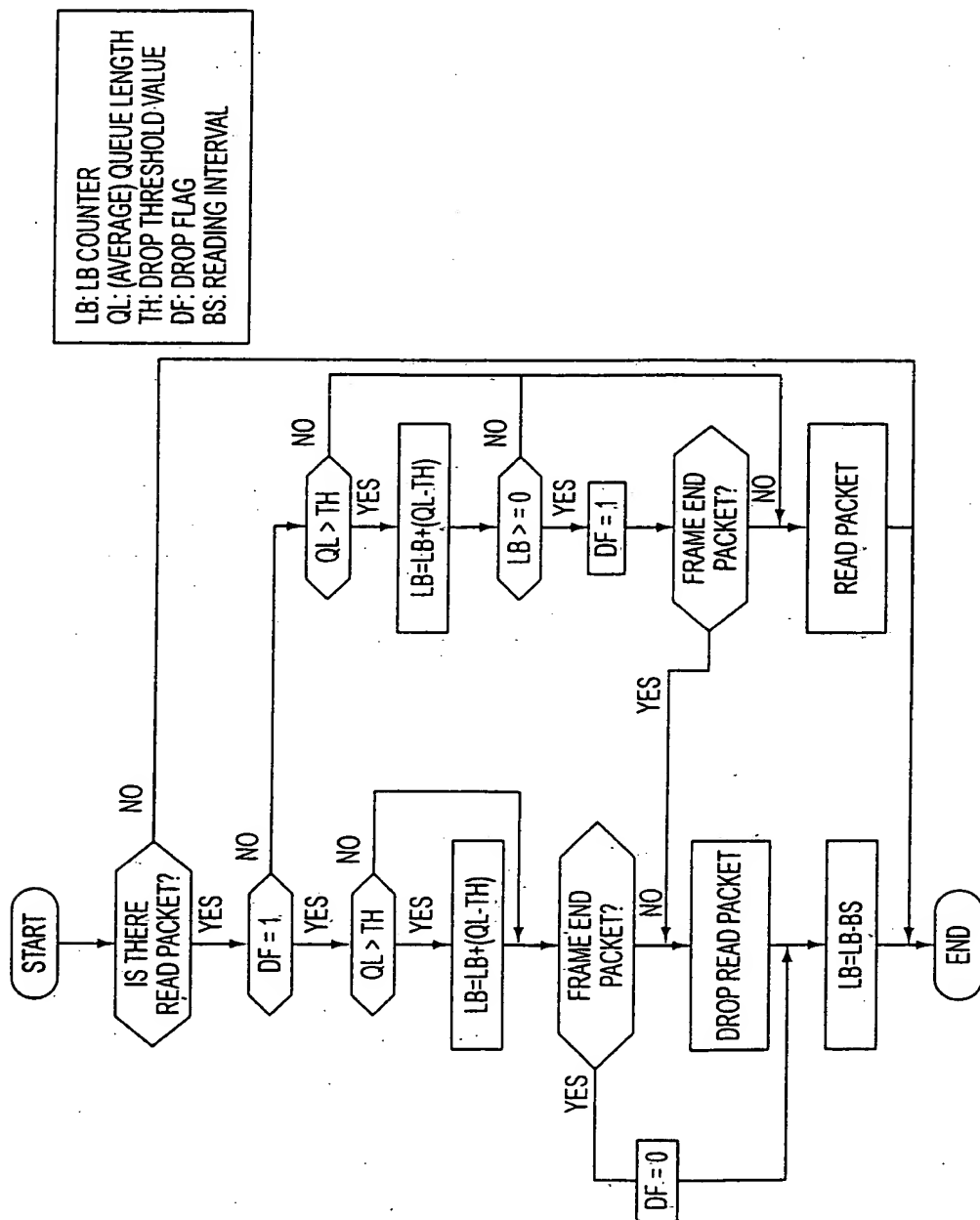


FIG. 37

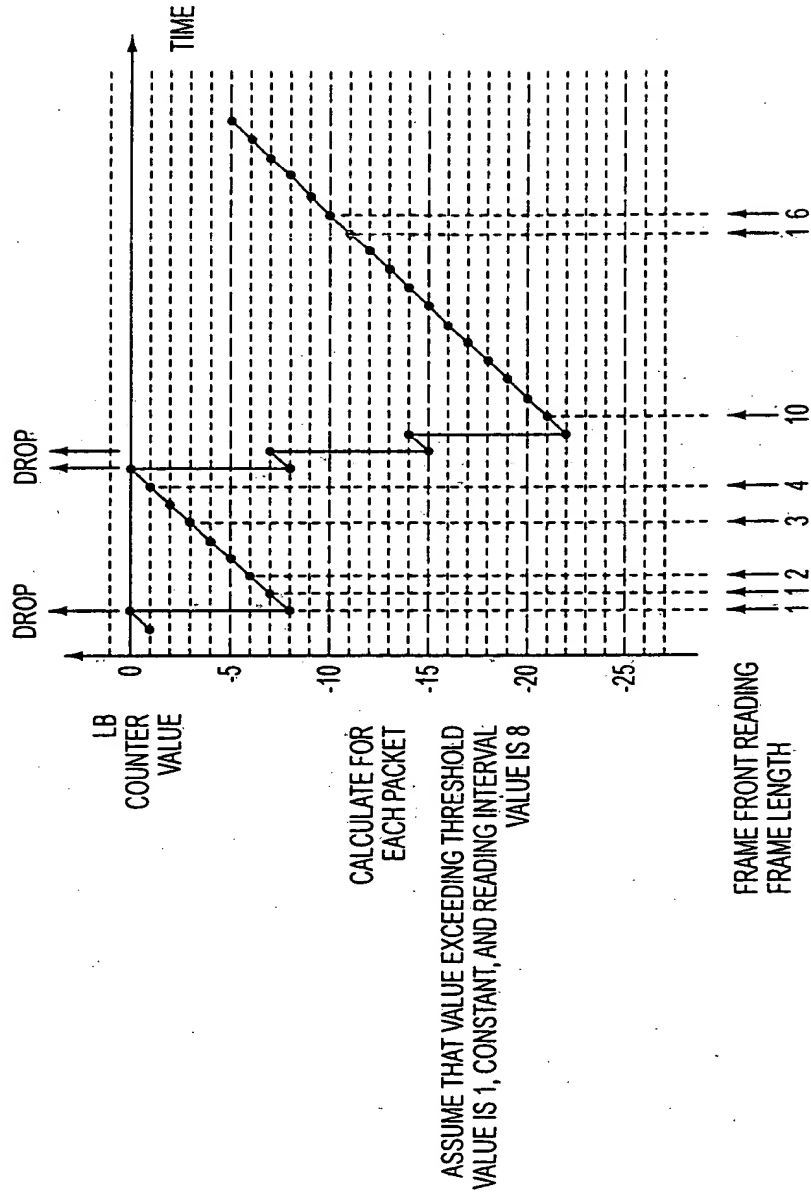


FIG. 38

FIG. 39

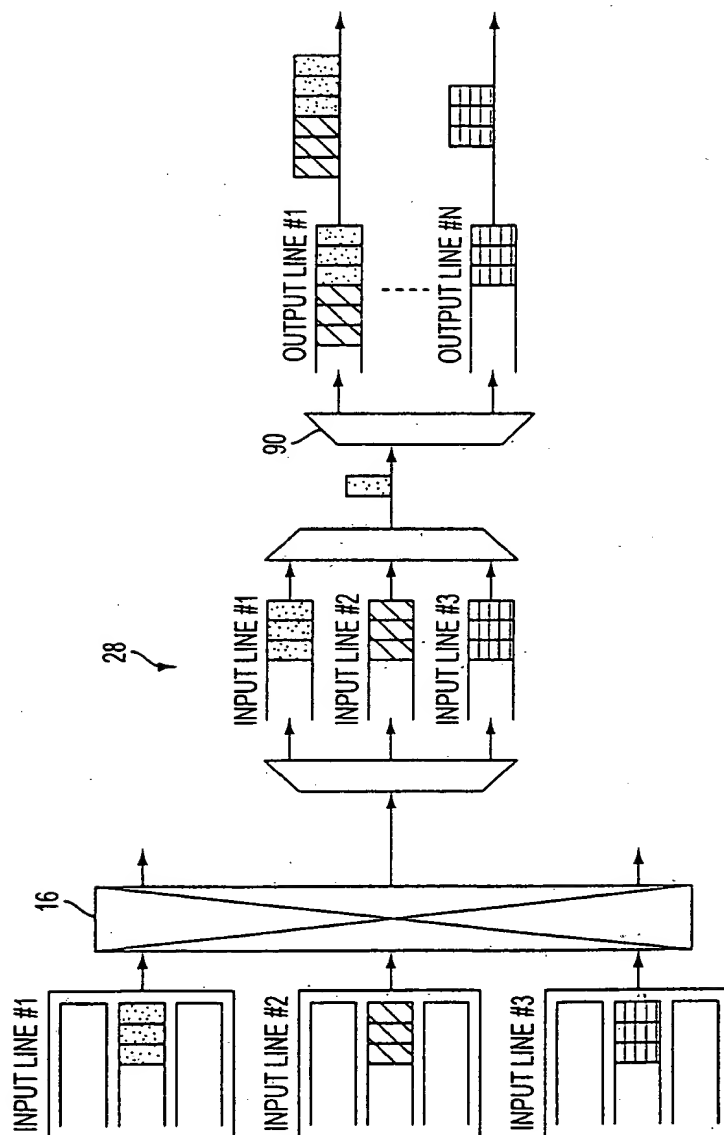


FIG. 39

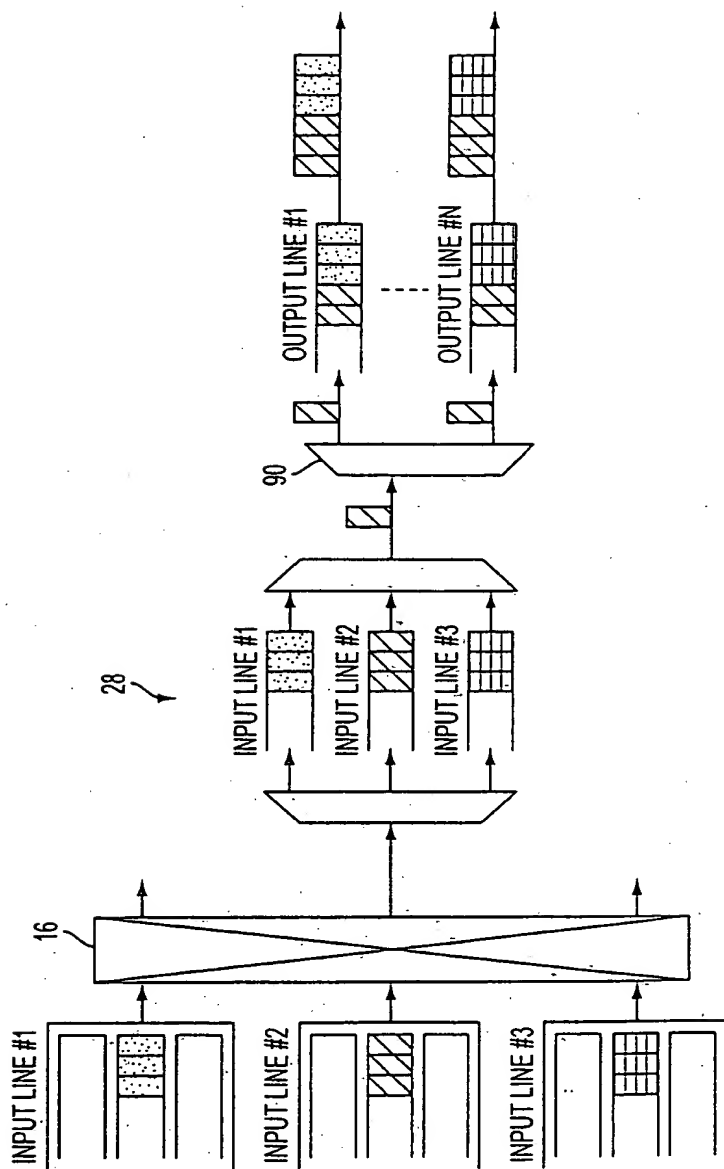


FIG. 40

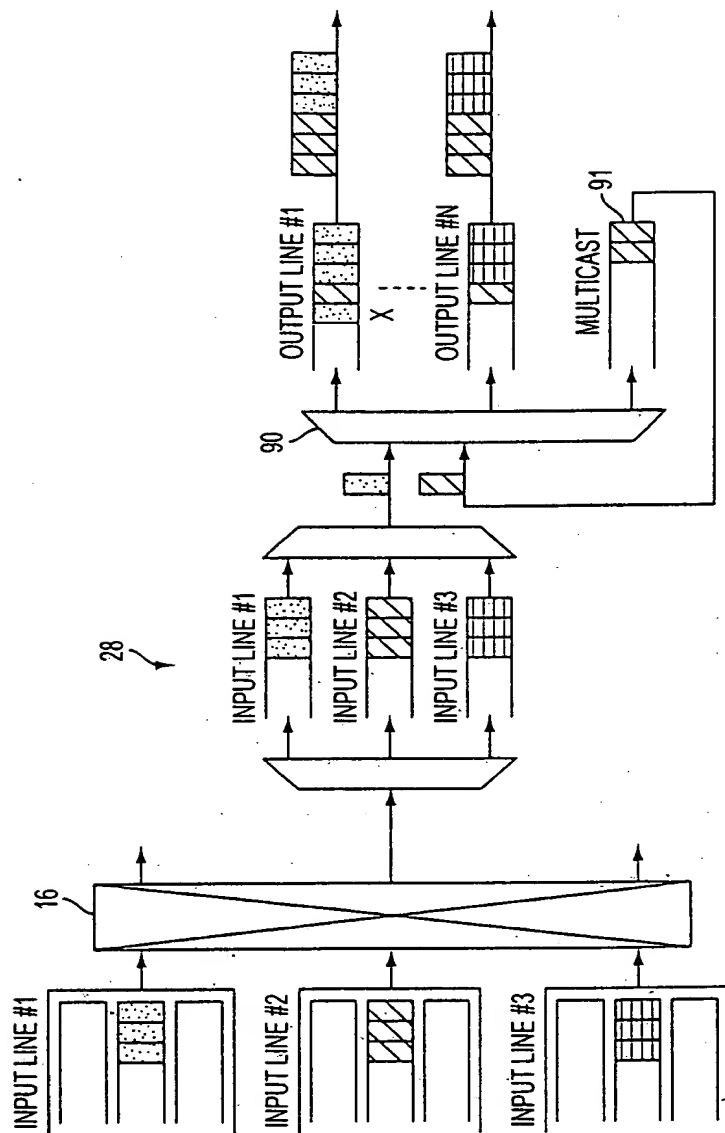


FIG. 41

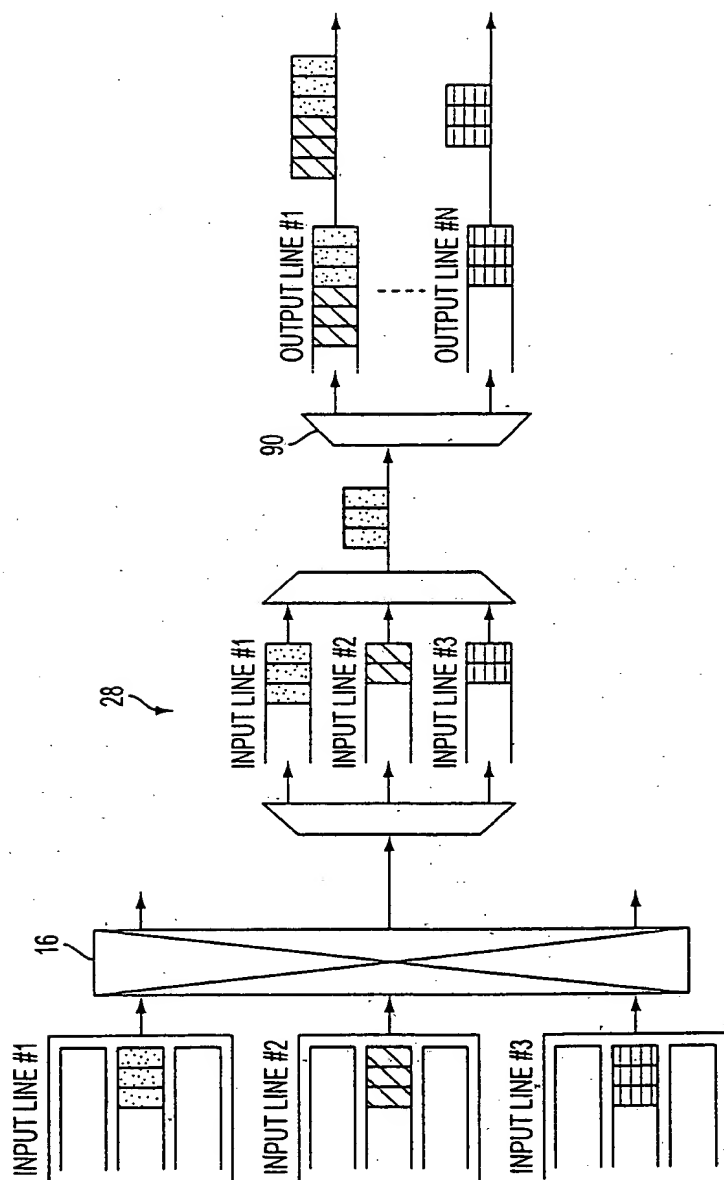


FIG. 42

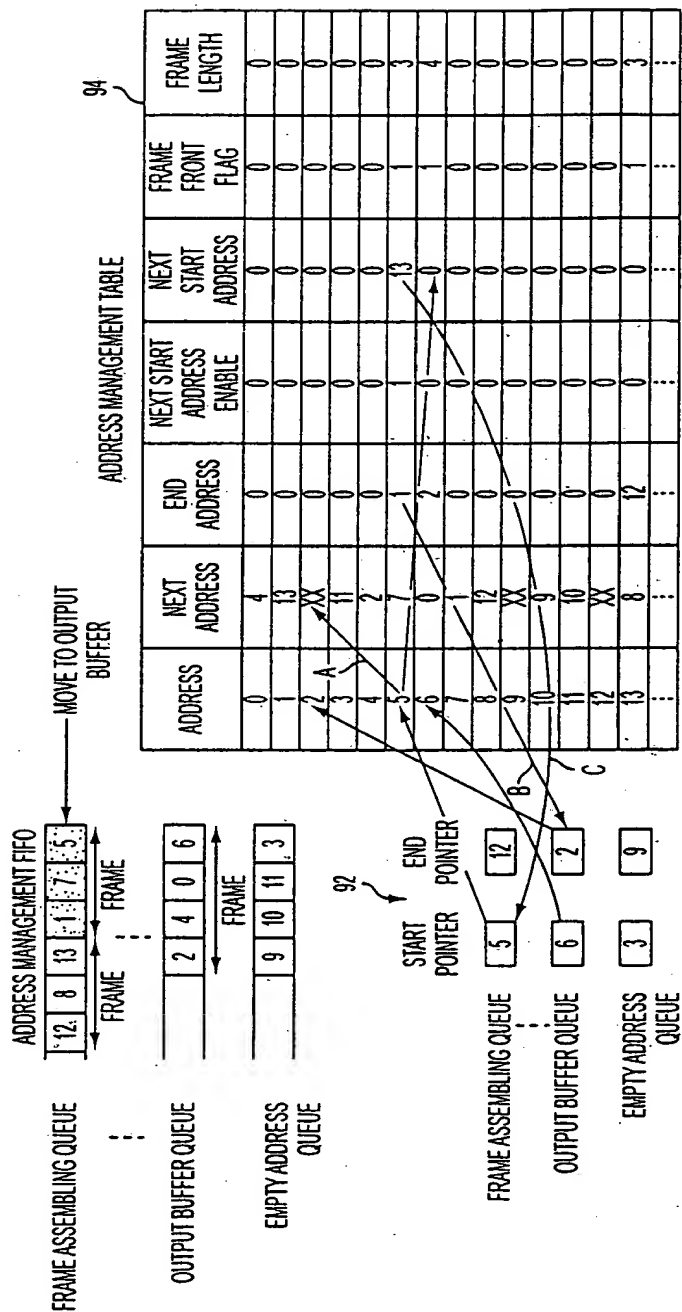
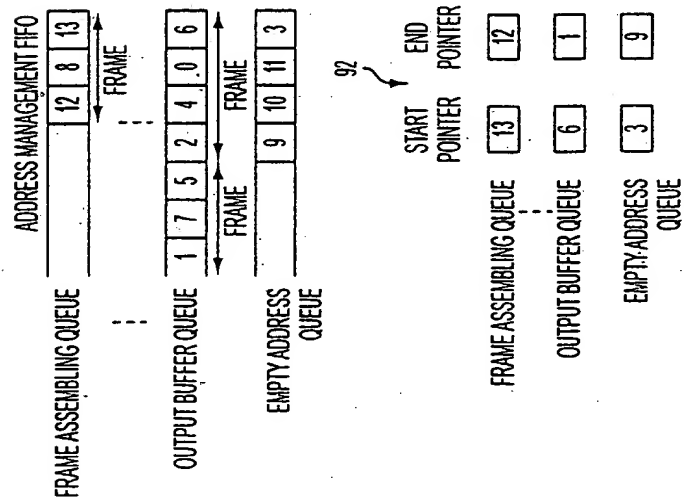


FIG. 43



ADDRESS MANAGEMENT TABLE

ADDRESS	NEXT ADDRESS	END ADDRESS	NEXT START ADDRESS ENABLE	NEXT START ADDRESS	FRAME FRONT FLAG	FRAME LENGTH
0	4	0	0	0	0	0
1	13	0	0	0	0	0
2	5	0	0	0	0	0
3	11	0	0	0	0	0
4	2	0	0	0	0	0
5	7	1	0	0	1	3
6	0	2	1	5	1	4
7	1	0	0	0	0	0
8	12	0	0	0	0	0
9	XX	0	0	0	0	0
10	9	0	0	0	0	0
11	10	0	0	0	0	0
12	XX	0	0	0	0	0
13	8	12	0	0	1	3
...

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FIG. 44

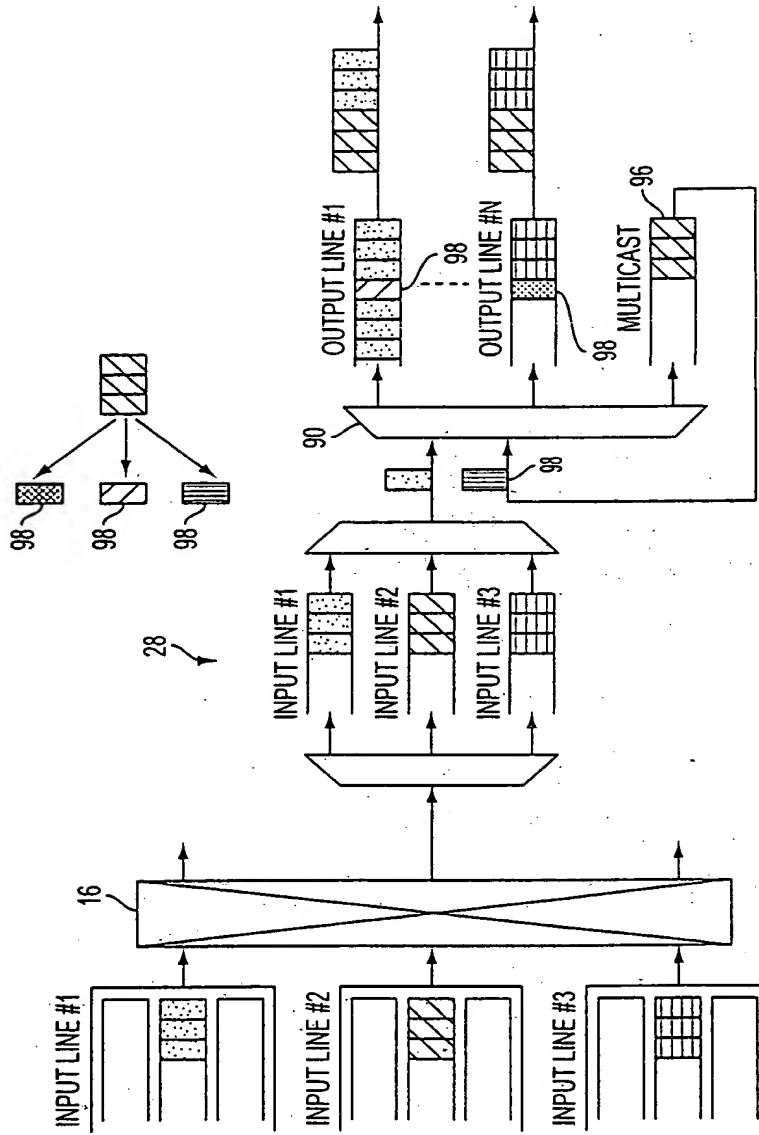


FIG. 45

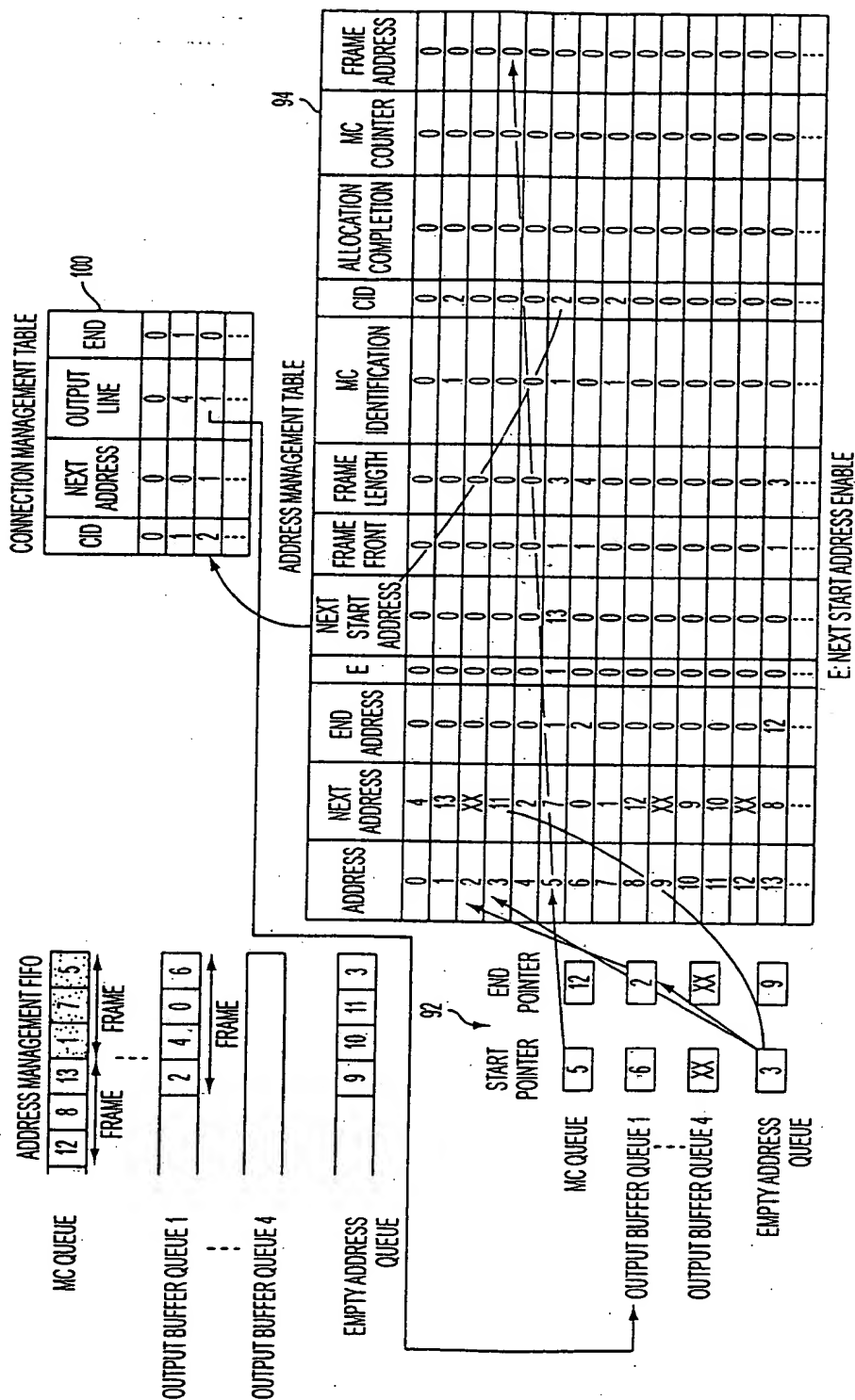
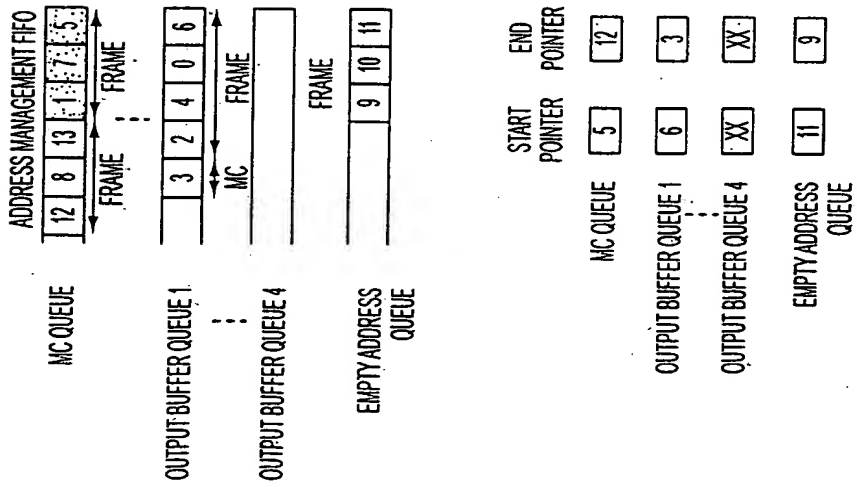


FIG. 46



CONNECTION MANAGEMENT TABLE

CID	NEXT ADDRESS	OUTPUT LINE	END
0	0	0	0
1	0	4	1
2	1	1	0
...

ADDRESS MANAGEMENT TABLE

ADDRESS	NEXT ADDRESS	END ADDRESS	E	NEXT START ADDRESS	FRAME FRONT	FRAME LENGTH	MC IDENTIFICATION	CID	ALLOCATION COMPLETION	MC COUNTER	FRAME ADDRESS
0	4	0	0	0	0	0	0	0	0	0	0
1	13	0	0	0	0	0	1	2	0	0	0
2	3	0	0	0	0	0	0	0	0	0	0
3	11	0	0	0	0	0	0	0	0	0	0
4	2	0	0	0	0	0	1	0	0	0	5
5	7	1	1	13	1	3	1	2	0	1	0
6	0	2	1	3	1	4	0	0	0	0	0
7	1	0	0	0	0	0	1	2	0	0	0
8	12	0	0	0	0	0	0	0	0	0	0
9	XX	0	0	0	0	0	0	0	0	0	0
10	9	0	0	0	0	0	0	0	0	0	0
11	10	0	0	0	0	0	0	0	0	0	0
12	XX	0	0	0	0	0	0	0	0	0	0
13	8	12	0	0	1	3	0	0	0	0	0
...

E: NEXT START ADDRESS ENABLE

FIG. 47

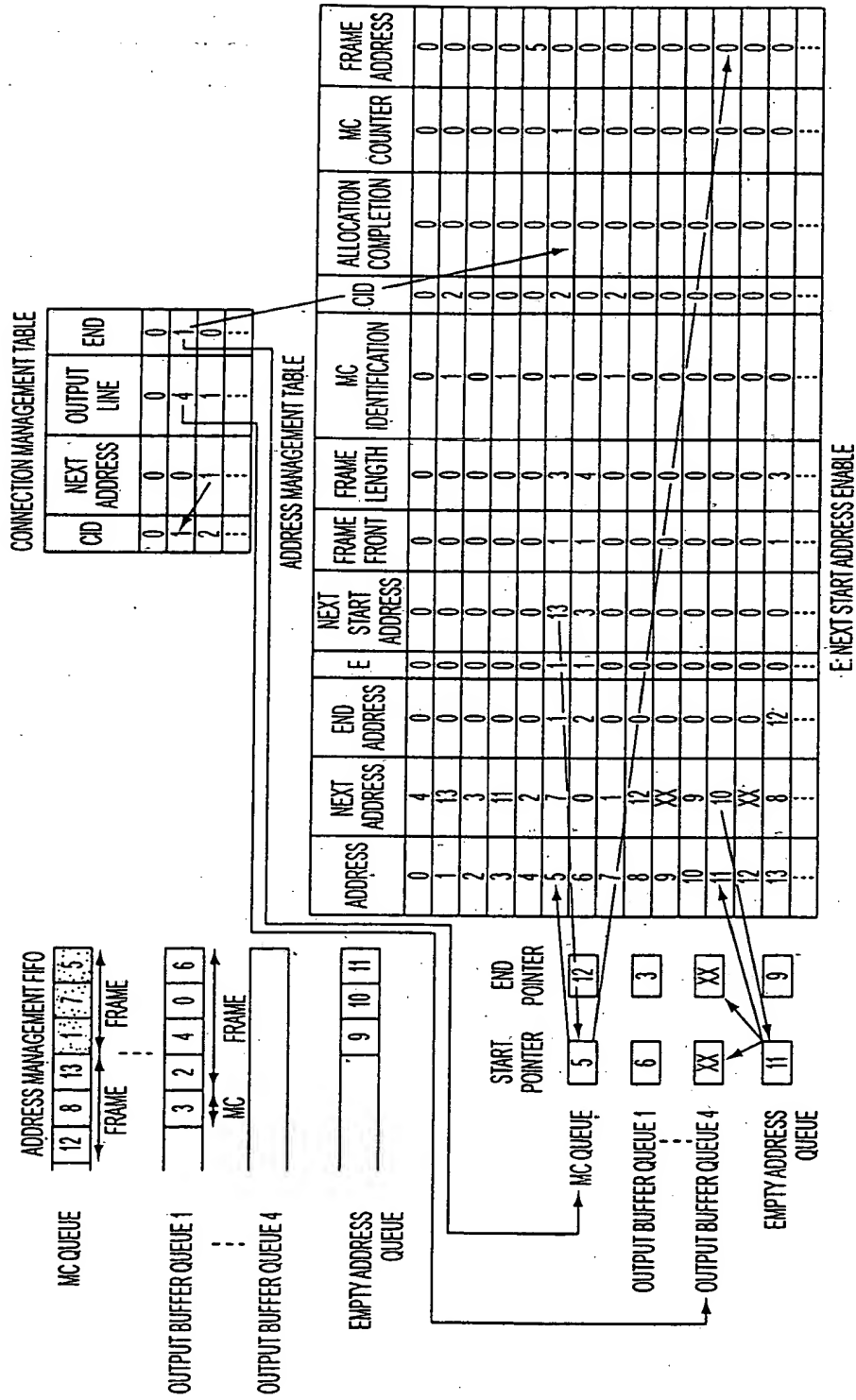
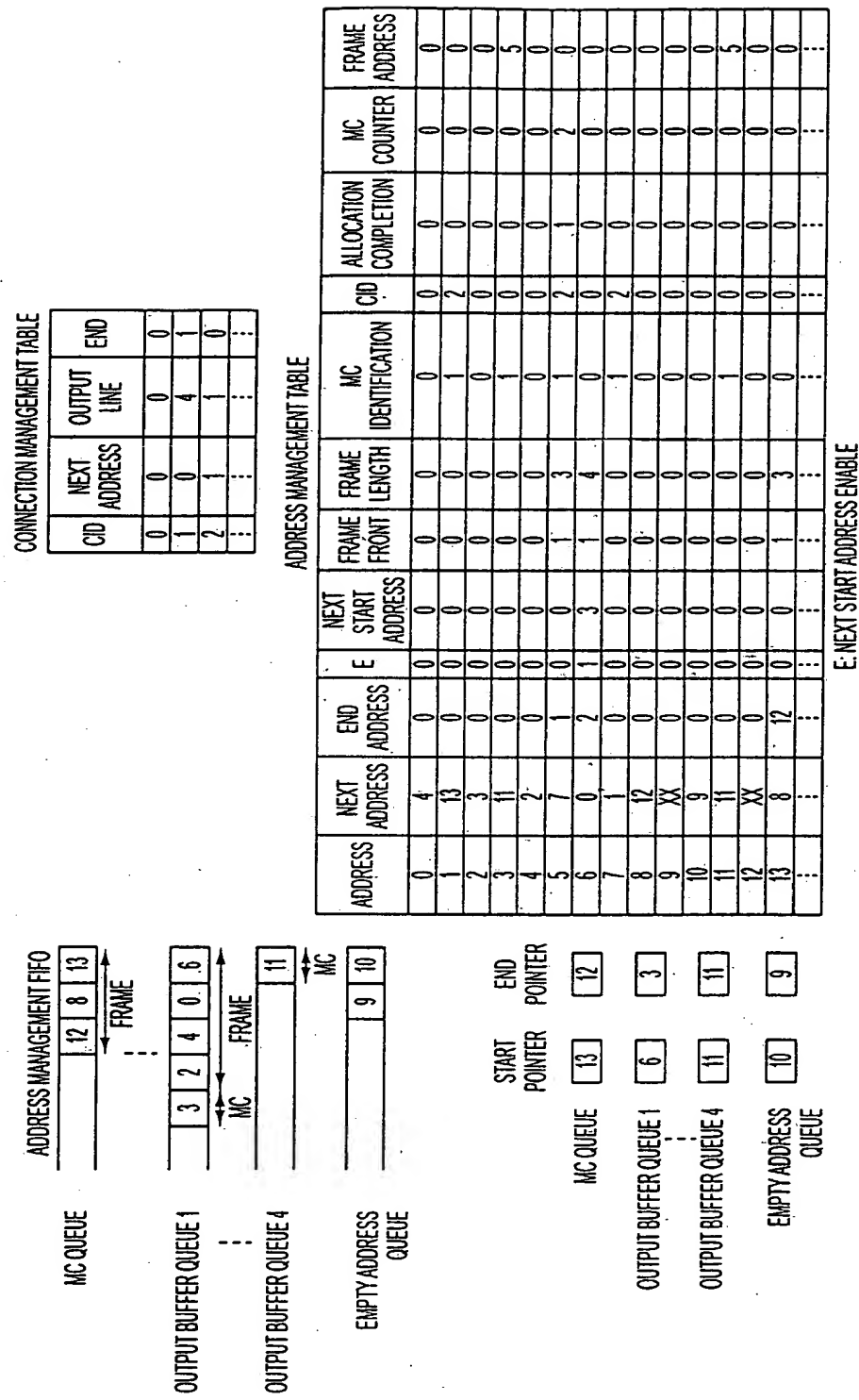


FIG. 48



CONNECTION MANAGEMENT TABLE

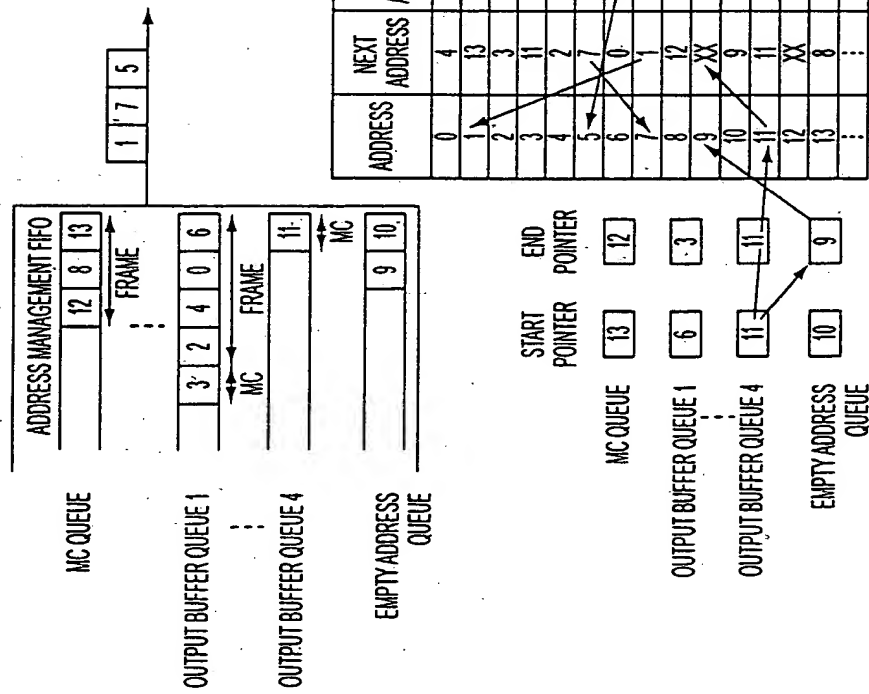
CID	NEXT ADDRESS	OUTPUT LINE	END
0	0	0	0
1	0	4	1
2	1	1	0
...

ADDRESS MANAGEMENT TABLE

ADDRESS	NEXT ADDRESS	END ADDRESS	E	NEXT START ADDRESS	FRAME FRONT	FRAME LENGTH	MC IDENTIFICATION	CID	ALLOCATION COMPLETION	MC COUNTER	FRAME ADDRESS
0	4	0	0	0	0	0	0	0	0	0	0
1	13	0	0	0	0	0	1	2	0	0	0
2	3	0	0	0	0	0	0	0	0	0	0
3	11	0	0	0	0	0	1	0	0	0	5
4	2	0	0	0	0	0	0	0	0	0	0
5	7	1	0	0	1	3	1	2	1	2	0
6	0	2	1	3	1	4	0	0	0	0	0
7	1	0	0	0	0	0	1	2	0	0	0
8	12	0	0	0	0	0	0	0	0	0	0
9	XX	0	0	0	0	0	0	0	0	0	0
10	9	0	0	0	0	0	0	0	0	0	0
11	11	0	0	0	0	0	1	0	0	0	5
12	XX	0	0	0	0	0	0	0	0	0	0
13	8	12	0	0	1	3	0	0	0	0	0
...

E: NEXT START ADDRESS ENABLE

FIG. 49



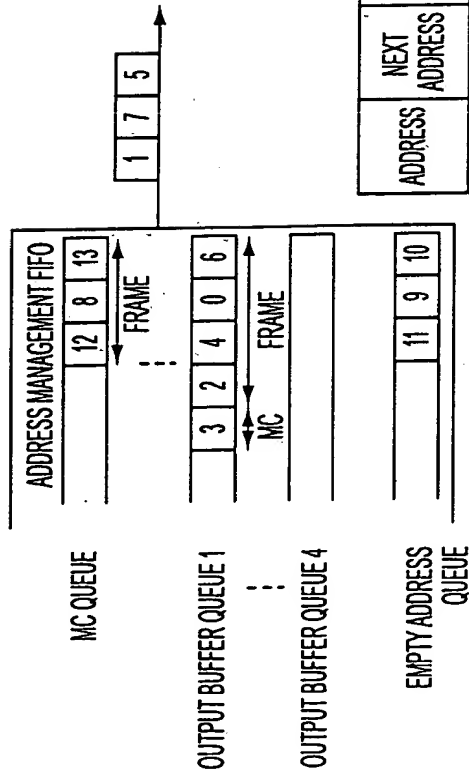
ADDRESS MANAGEMENT TABLE

ADDRESS	NEXT ADDRESS	END ADDRESS	E	NEXT START ADDRESS	FRAME FRONT	FRAME LENGTH	MC IDENTIFICATION	CID	ALLOCATION COMPLETION	MC COUNTER	FRAME ADDRESS
0	4	0	0	0	0	0	0	0	0	0	0
1	13	0	0	0	0	0	1	2	0	0	0
2	3	0	0	0	0	0	0	0	0	0	0
3	11	0	0	0	0	0	1	0	0	0	5
4	2	0	0	0	0	0	0	0	0	0	0
5	7	1	0	0	1	3	1	2	1	2	0
6	0	2	1	3	1	4	0	0	0	0	0
7	1	0	0	0	0	0	1	2	0	0	0
8	12	0	0	0	0	0	0	0	0	0	0
9	XX	0	0	0	0	0	0	0	0	0	0
10	9	0	0	0	0	0	0	0	0	0	0
11	11	0	0	0	0	0	1	0	0	0	5
12	XX	0	0	0	0	0	0	0	0	0	0
13	8	12	0	0	1	3	0	0	0	0	0
...

E: NEXT START ADDRESS ENABLE

FIG. 50

FIG. 50

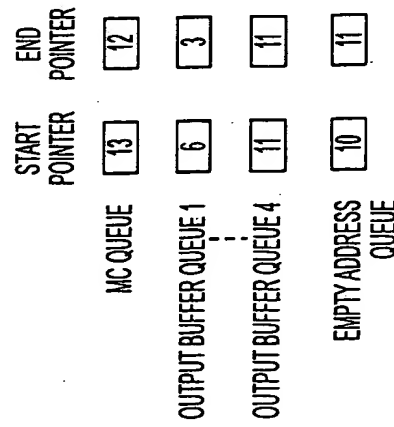


ADDRESS MANAGEMENT TABLE

ADDRESS	NEXT ADDRESS	END ADDRESS	E	NEXT START ADDRESS	FRAME FRONT	FRAME LENGTH	MC IDENTIFICATION	CID	ALLOCATION COMPLETION	MC COUNTER	FRAME ADDRESS
0	4	0	0	0	0	0	0	0	0	0	0
1	13	0	0	0	0	0	1	2	0	0	0
2	3	0	0	0	0	0	0	0	0	0	0
3	11	0	0	0	0	0	1	0	0	0	5
4	2	0	0	0	0	0	0	0	0	0	0
5	7	1	0	0	1	3	1	2	1	1	0
6	0	2	1	3	1	4	0	0	0	0	0
7	1	0	0	0	0	0	1	2	0	0	0
8	12	0	0	0	0	0	0	0	0	0	0
9	11	0	0	0	0	0	0	0	0	0	0
10	9	0	0	0	0	0	0	0	0	0	0
11	11	0	0	0	0	0	0	0	0	0	0
12	XX	0	0	0	0	0	0	0	0	0	0
13	8	12	0	0	1	3	0	0	0	0	0
...

E: NEXT START ADDRESS ENABLE

FIG. 51



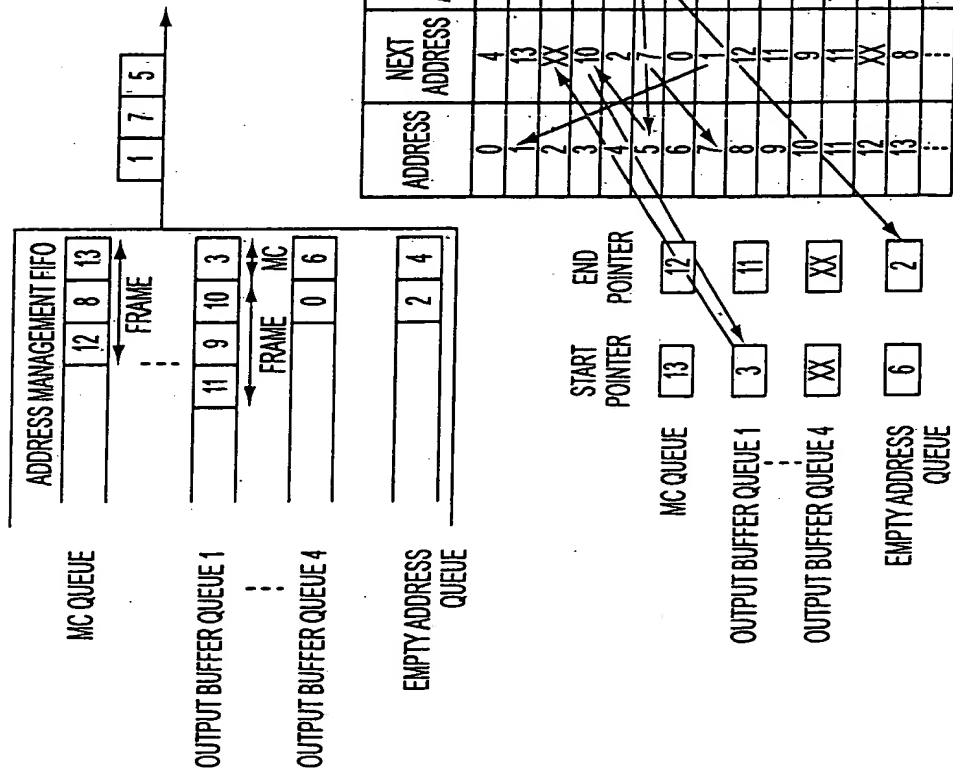
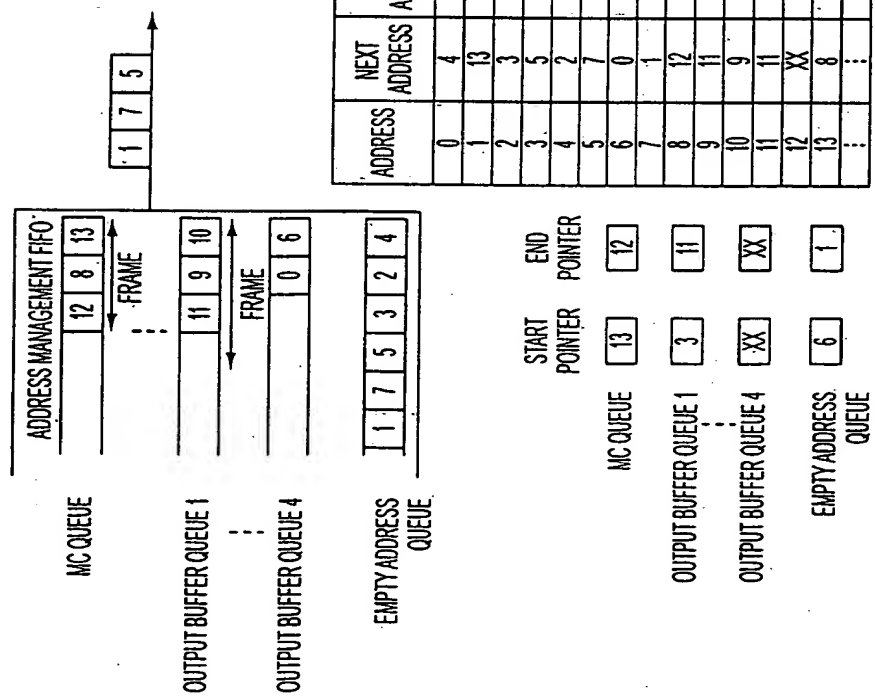


FIG. 52



ADDRESS MANAGEMENT TABLE

ADDRESS	NEXT ADDRESS	END ADDRESS	E	NEXT START ADDRESS	FRAME FRONT	FRAME LENGTH	MC IDENTIFICATION	CID	ALLOCATION COMPLETION	MC COUNTER	FRAME ADDRESS
0	4	0	0	0	0	0	0	0	0	0	0
1	13	0	0	0	0	0	1	2	0	0	0
2	3	0	0	0	0	0	0	0	0	0	0
3	5	0	0	0	0	0	0	0	0	0	0
4	2	0	0	0	0	0	1	0	0	0	5
5	7	0	0	0	0	0	0	0	0	0	0
6	0	2	0	0	0	0	0	2	0	0	0
7	1	0	0	0	0	0	0	0	0	0	0
8	12	0	0	0	0	0	0	0	0	0	0
9	11	0	0	0	0	0	0	0	0	0	0
10	9	11	0	0	0	0	0	0	0	0	0
11	11	0	0	0	0	0	0	0	0	0	0
12	XX	0	0	0	0	0	0	0	0	0	0
13	8	12	0	0	1	3	0	0	0	0	0
...

E: NEXT START ADDRESS ENABLE

FIG. 53

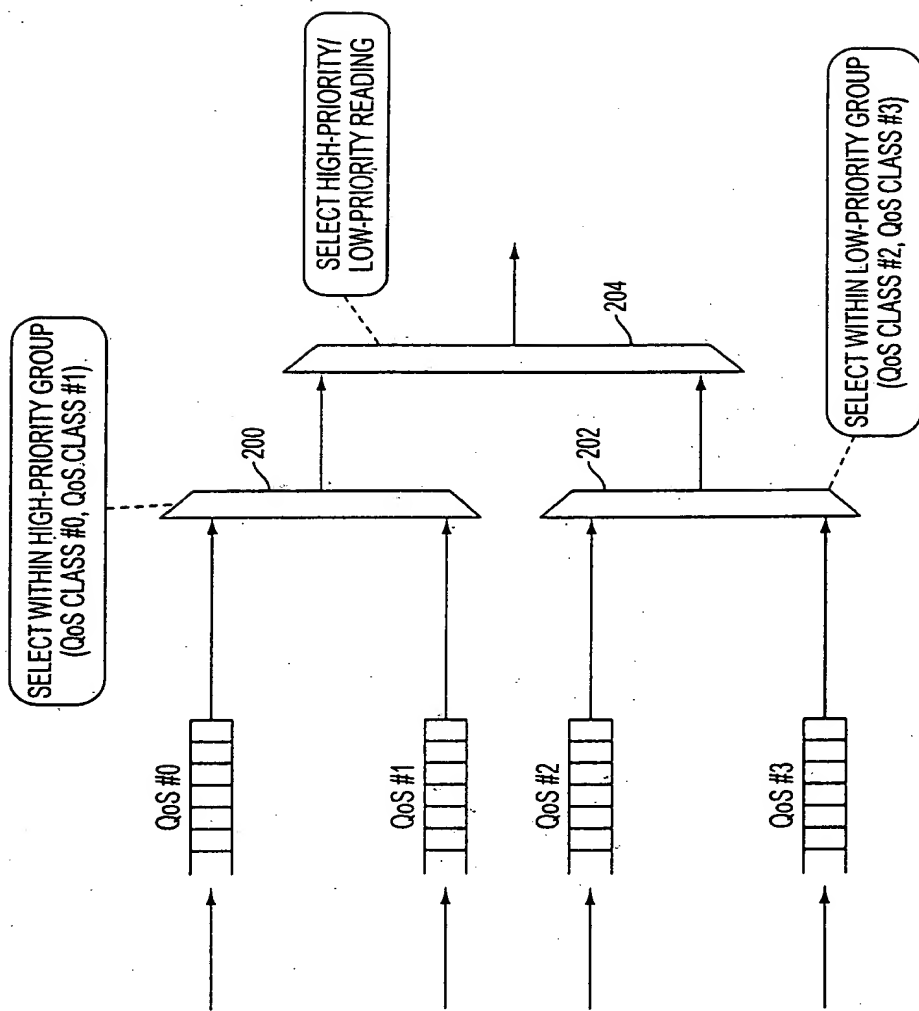


FIG. 54

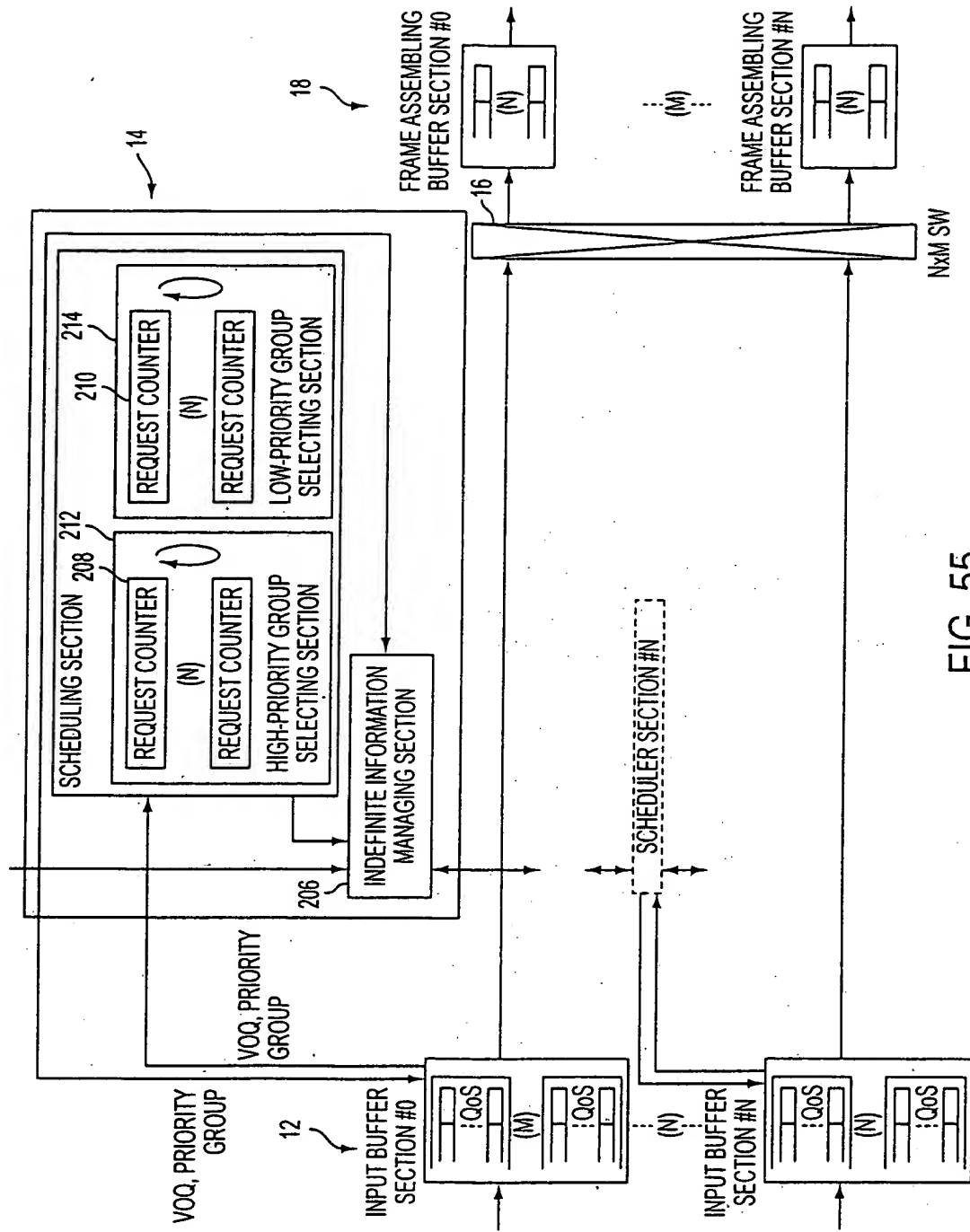


FIG. 55

```

graph TD
    Start([START OF SCHEDULING]) --> SelectHigh[SELECT VOQ DIFFERENT FOR EACH INPUT LINE FOR HIGH-PRIORITY GROUP]
    SelectHigh --> SelectLow[SELECT VOQ DIFFERENT FOR EACH INPUT LINE FOR LOW-PRIORITY GROUP FROM VOQS NOT SELECTED BY HIGH-PRIORITY CLASS]
    SelectLow --> LoopStart(( ))
    LoopStart --> ForEachLine[FOR EACH VOQ SELECTED FOR EACH INPUT LINE]
    ForEachLine --> FrameUnderTrans{FRAME UNDER TRANSMISSION?}
    FrameUnderTrans -- YES --> SelectQoSTrans[SELECT QoS CLASS OF FRAME UNDER TRANSMISSION]
    FrameUnderTrans -- NO --> PriorityGroup{PRIORITY GROUP?}
    PriorityGroup -- HIGH-PRIORITY GROUP --> SelectQoSHigh[SELECT ONE QoS CLASS FROM QoS CLASSES THAT BELONG TO HIGH-PRIORITY GROUP]
    PriorityGroup -- LOW-PRIORITY GROUP --> SelectQoSLow[SELECT ONE QoS CLASS FROM QoS CLASSES THAT BELONG TO LOW-PRIORITY GROUP]
    SelectQoSHigh --> FrameEnd{FRAME END?}
    SelectQoSLow --> FrameEnd
    SelectQoSTrans --> FrameEnd
    FrameEnd -- YES --> End([END])
    FrameEnd -- NO --> HoldHigh[HOLD SELECTED QoS CLASS/ PRIORITY GROUP, AND SET UNDER-FRAME-TRANSMISSION FLAG]
    FrameEnd -- NO --> HoldLow[HOLD SELECTED QoS CLASS/ PRIORITY GROUP, AND CLEAR UNDER-FRAME-TRANSMISSION FLAG]
    HoldHigh --> LoopStart
    HoldLow --> LoopStart
    
```

FIG. 56

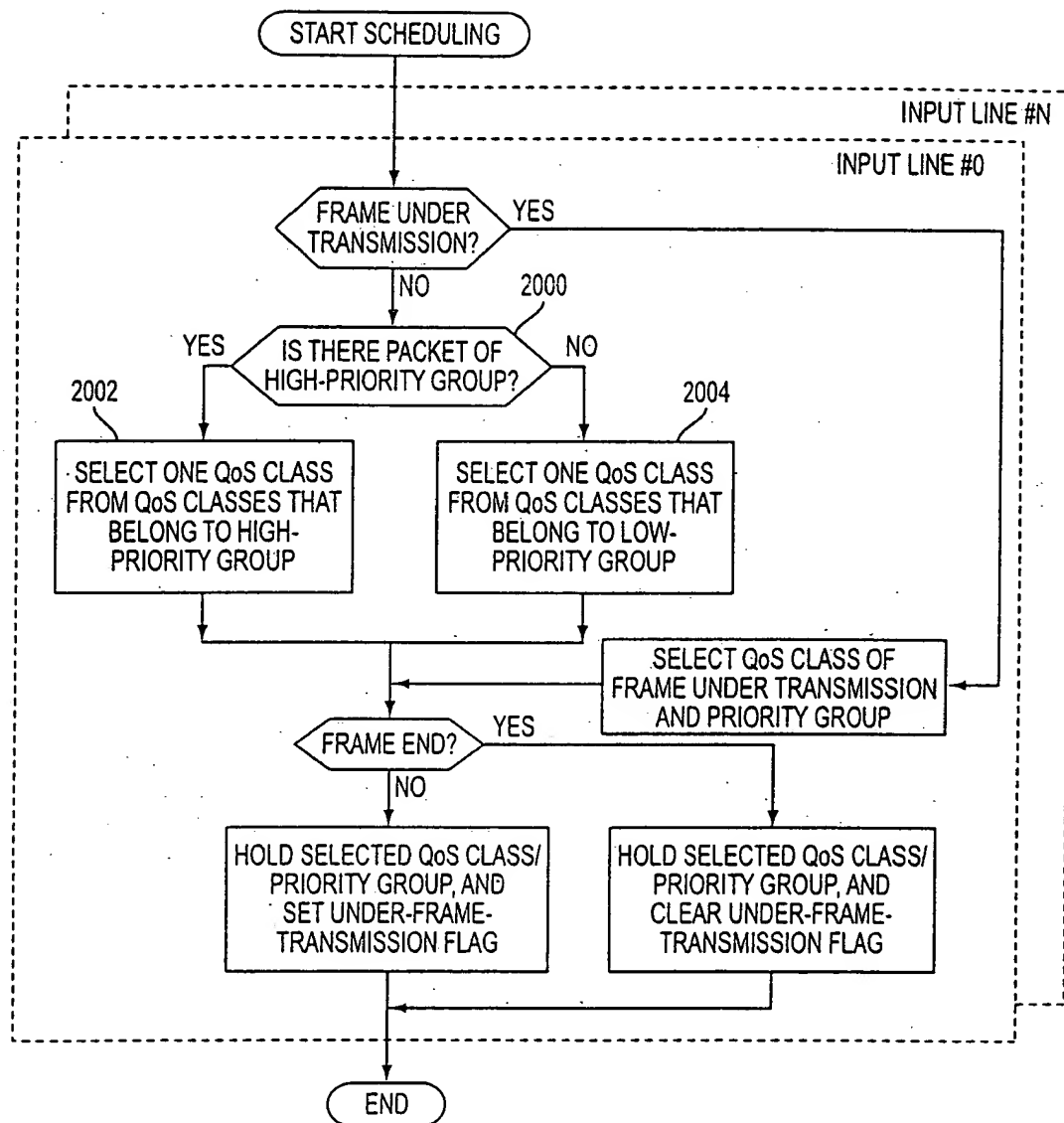


FIG. 57

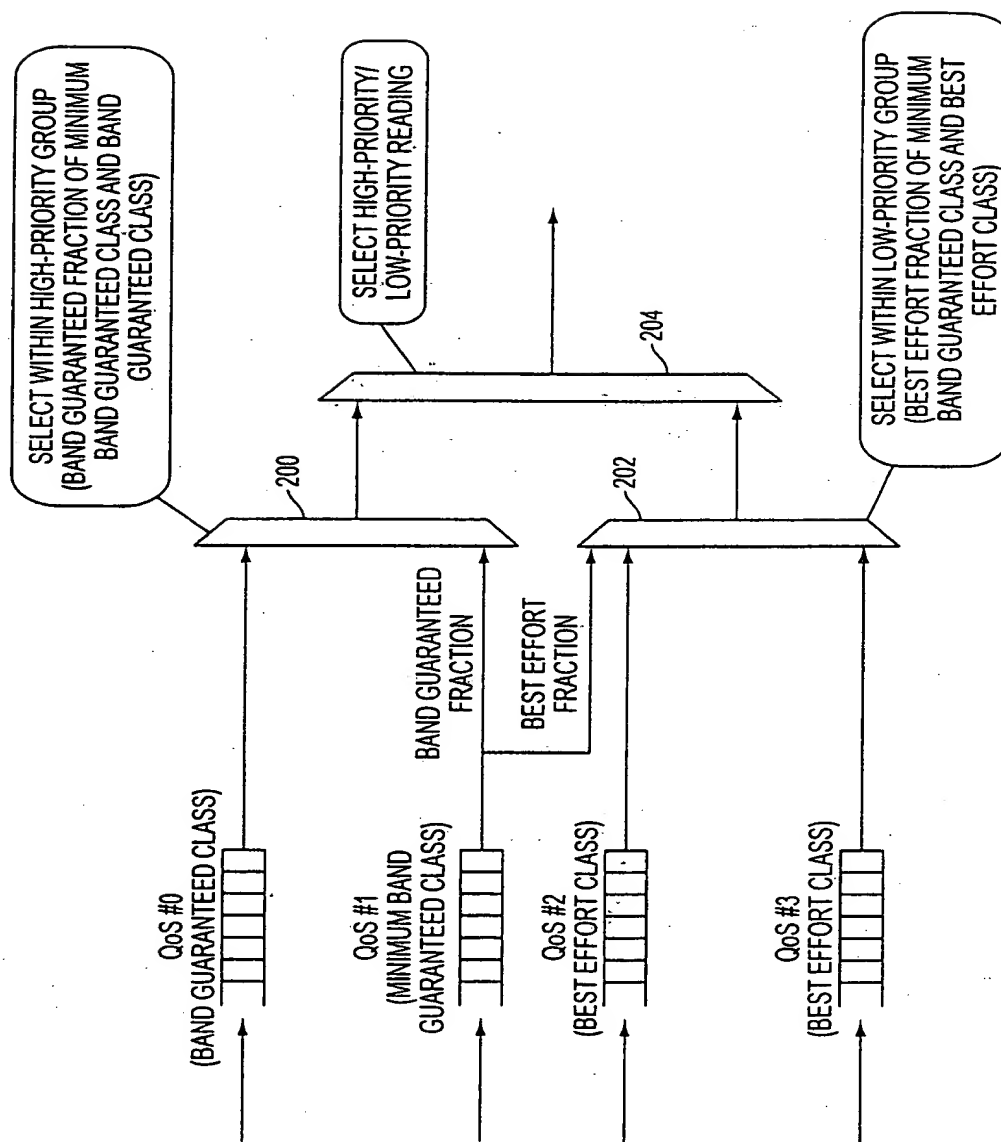


FIG. 58

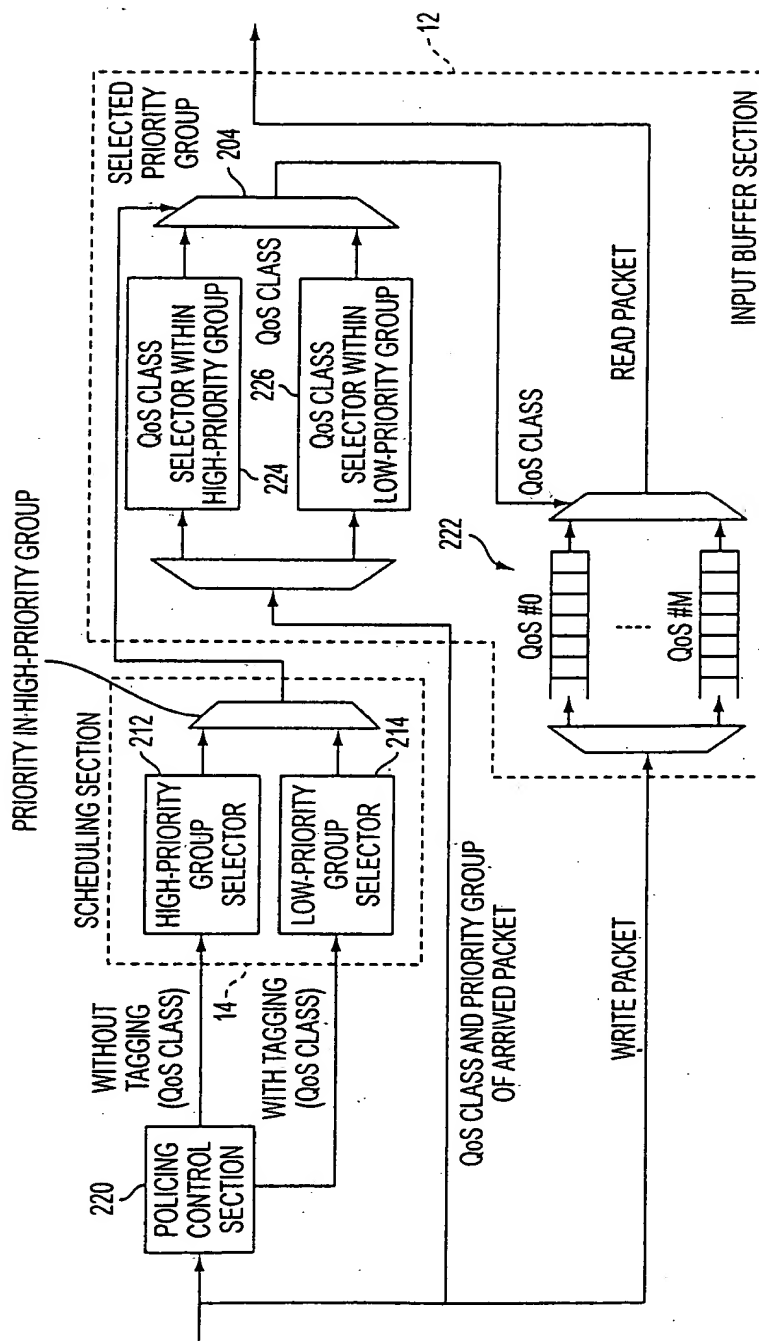


FIG. 59

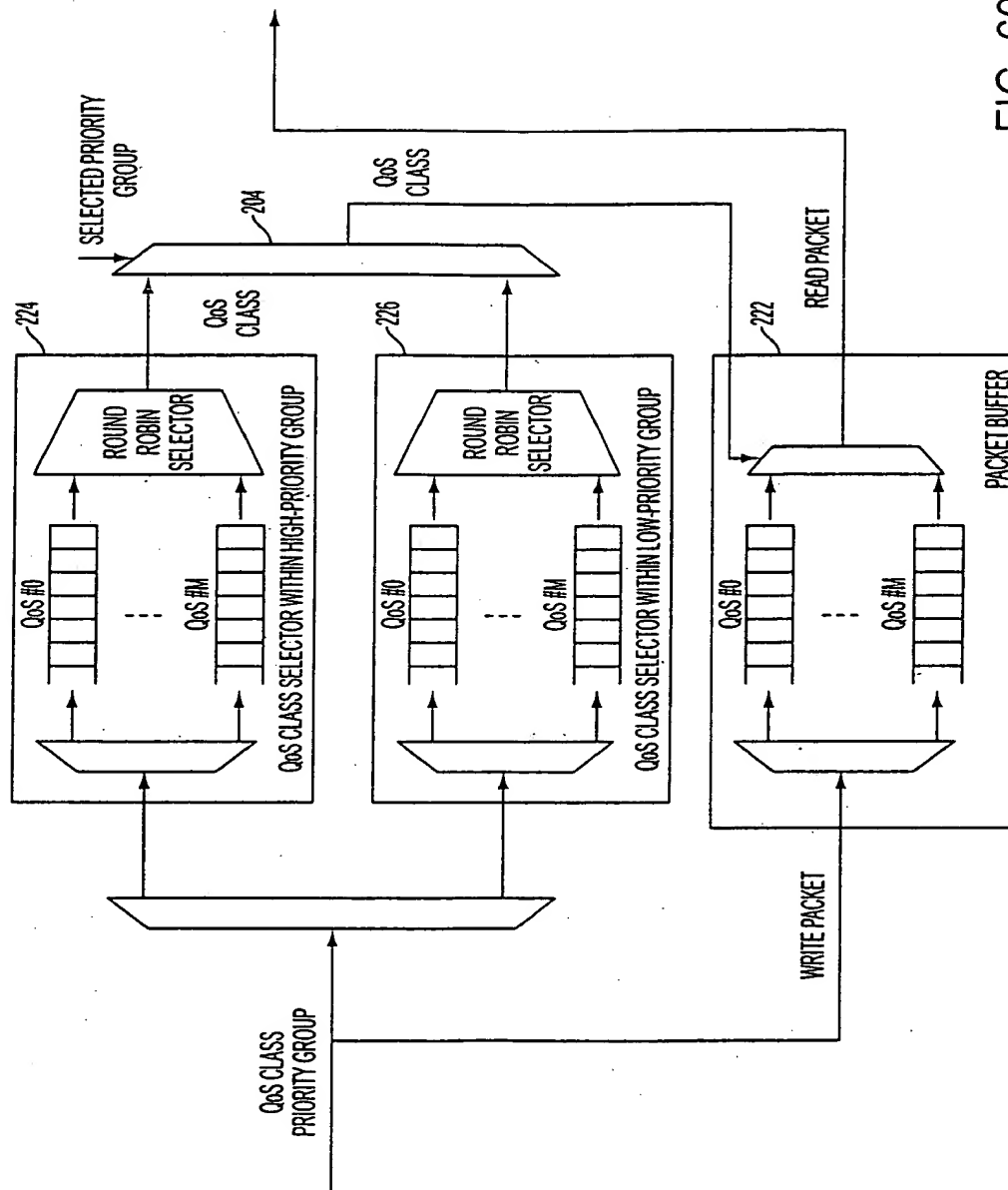


FIG. 60

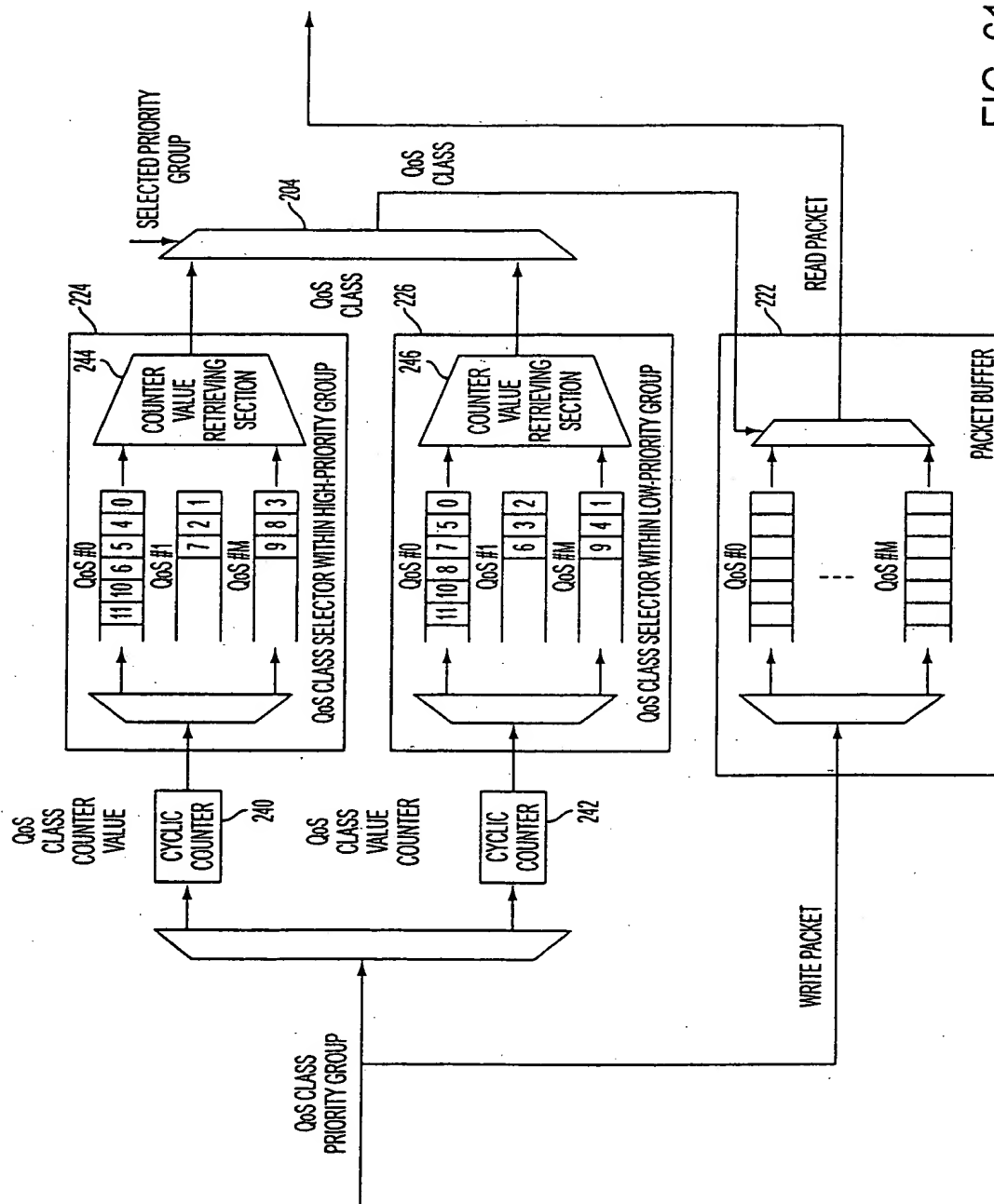


FIG. 61

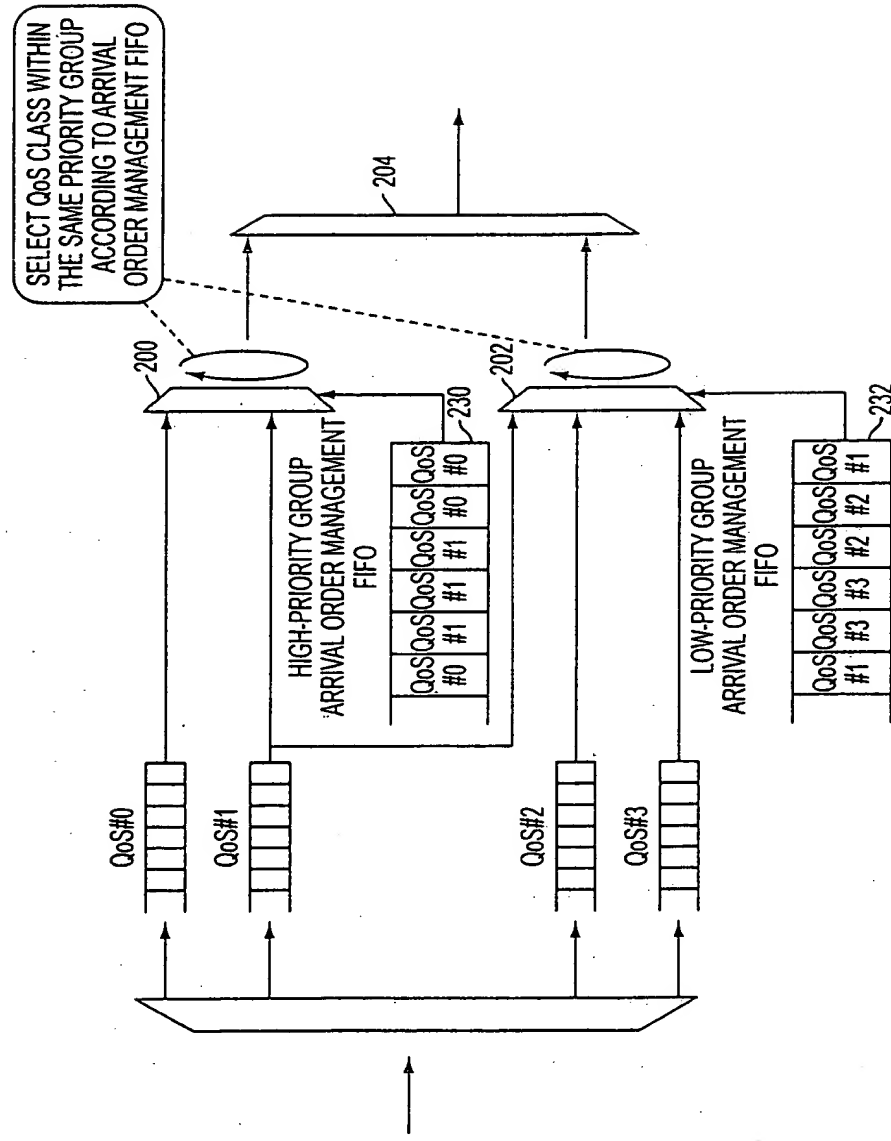


FIG. 62

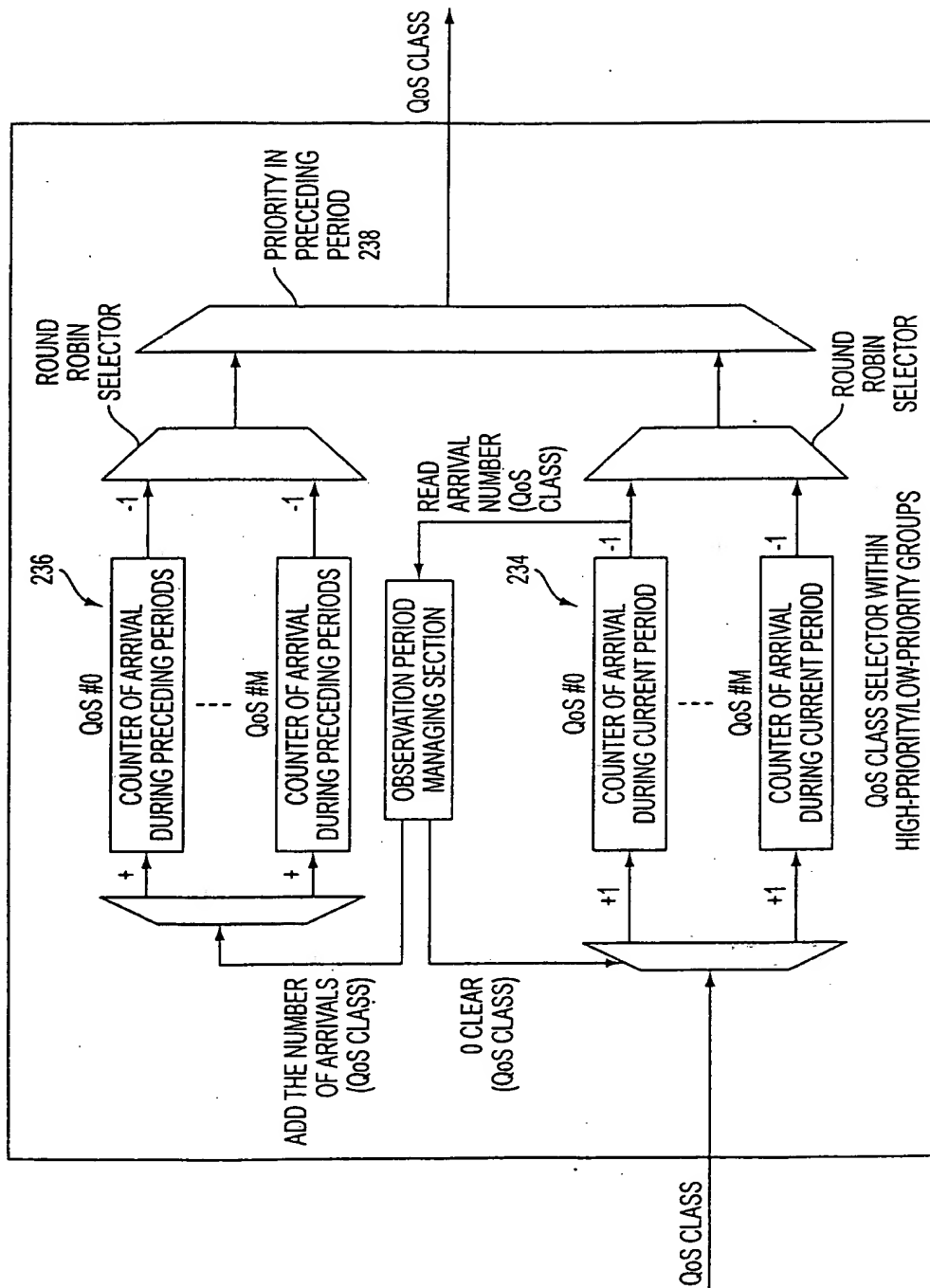


FIG. 63

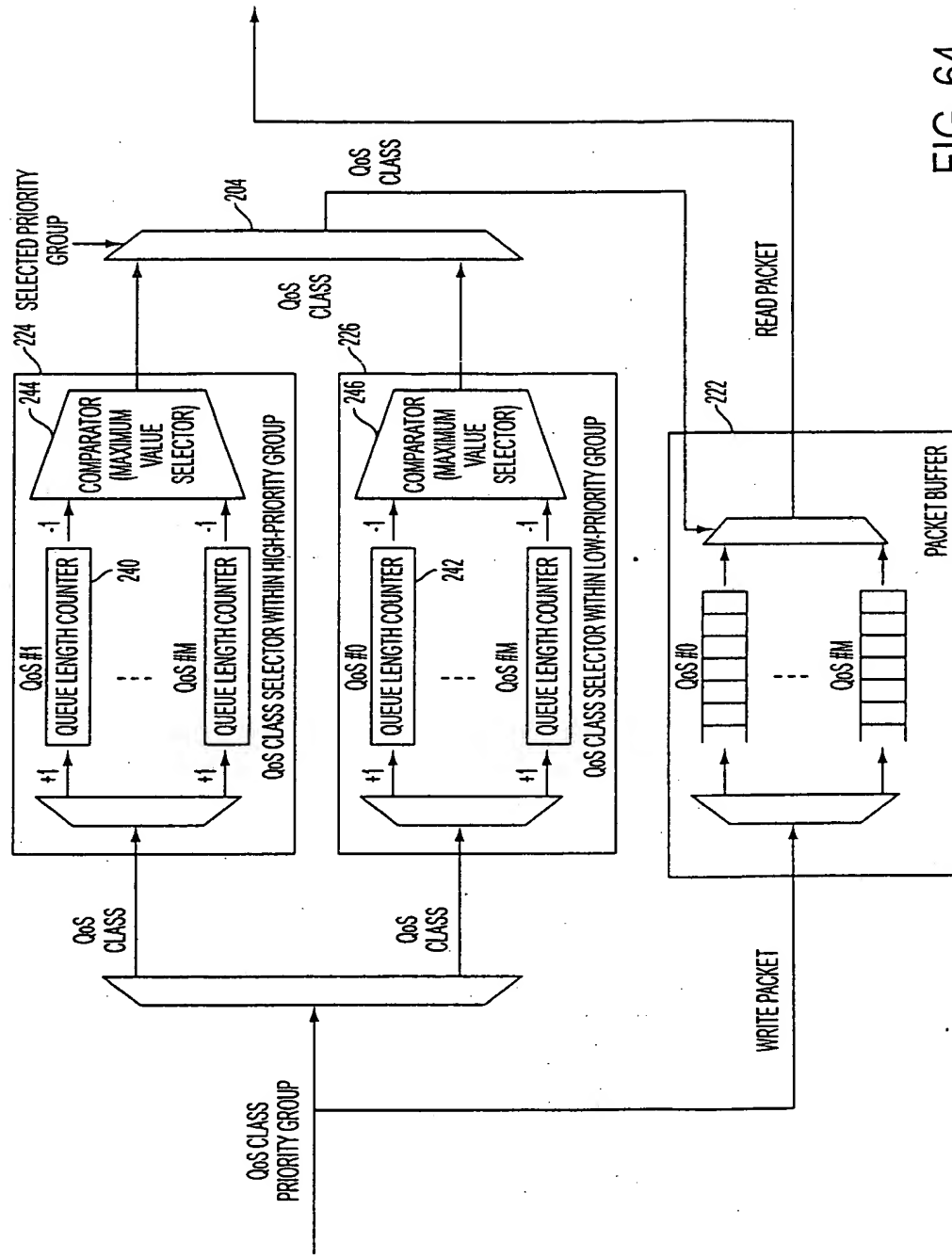


FIG. 64